19-23 April/2008

6th AMN Congress and Members Meeting

Neuroprotection and Neurorecovery in Traumatic Brain and Spinal Cord Injury

Cluj-Napoca, Romania
Congress Presidents

Dafin Fier Mureșanu
University of Medicine and Pharmacy “Iuliu Hațieganu”, Cluj-Napoca, Romania
Secretary General of the Romanian Society for the Study of Neuroprotection and Neuroplasticity

Alexandru V. Ciurea
Neurosurgical Department and Neuroimagistic Department Clinic Hospital “Bagdasar Arseni”, Bucharest, Romania
President of the Romanian Society of Neurosurgery
Welcome Note to the AMN meeting in Cluj-Napoca, Romania

As the Chair of the Scientific Committee, I am delighted to write this note of welcome to the 6th international meeting of the AMN and to thank Professor Dr. Dafin F. Muresanu, Secretary General of the Romanian Society for the Study of Neuroprotection and Neuroplasticity, and Dr. Alexandru Ciurea, President of the Romanian Society of Neurosurgery, and their colleagues for organizing this international and interdisciplinary event.

This is a wonderful opportunity for the scientific and professional community to come together and learn about neurorehabilitation and repair of the damaged nervous system in a collegial and scholarly setting.

The AMN meeting in Cluj-Napoca is especially appropriate because this historic city is one of the key academic centers of Romania.

I hope all of you will enjoy the meeting and come away from it with new insights and perspectives that can be applied and translated into more effective care and treatment for the victims of traumatic injury to the brain and spinal cord.

With very best wishes for a highly successful meeting and visit!

Welcome Address

As the first President of the AMN, it is my distinct pleasure to welcome you to the 6th Annual AMN Congress, which is being held in Cluj-Napoca, Romania.

The AMN is a new and small organization aimed at bringing together clinicians, academicians, and researchers who have a common goal. The goal is to better understand how trauma to the central nervous system disturbs function and what can be done to improve restoration of function based on our present knowledge within the neurosciences.

I regret that I am unable to attend this meeting, but certainly hope that I will have a chance to see many of you at future meetings. Professor Klaus von Wild, the General Secretary, would certainly be eager to hear from any of you regarding your thoughts concerning the AMN and ideas for improving our annual meeting.

I would also like to take this opportunity to specifically address to Professors Muresanu and Ciurea my gratitude for their hosting this meeting and putting in the hard work of making sure that such a conference runs smoothly and successfully.
Introduction.

The Academia Multidisciplinaria Neurotraumatologica, in English World Academy for Multidisciplinary Neurotraumatology, abbreviation AMN, was initiated and established at the invitation of Klaus von Wild in Munich on May 19th, 2004 (Figure 1) when Giorgio A. Brunelli-Italy, Anwar El Enany-Egypt, Mario Prinsengel-Germany, Wai S. Poor-Hong Kong, Alexandre V. Ciurea, Romania, Yoichi Katayama, Japan, Jose Leon Carrión, Spain, Claudio Perino, Italy, Alexander Potapov, Russia, Motoi Shoda-Japan and Klaus von Wild-Germany, appended their signatures to the foundation document. Dr. T. Kanno, Director of Fujita Health University, Toyoake, Aichi, Japan, has given him good reason to transfer the original philosophy of AMN to neuroscientists worldwide when he had been honoured Honorary Member of the European Academy of Multidisciplinary Neurotraumatology and gained his own experience of our academicians close multidisciplinary cooperation and friendship since these people were especially interested in challenging fields of neurotrauma. Besides academic therapists, politicians, social health care people can meet and discuss beyond geographic, cultural and socio-economic boarders in Europe.

The key goal of AMN is the advancement of neurotraumatology all over the world regarding basic molecular and epidemiological research, practical application and teaching concerning pre-hospital, emergency medical, and in-hospital medical care, early neurosurgical and - long-term neurological-neuropsychological rehabilitation and social reintegration, trauma prevention and the social-economic health care aspects. Head and spinal cord injuries can happen to everybody, everywhere at any time. One has to keep in mind that lower social income and lower education are the risk factors that count for the major burden of neurotrauma in both developing and developed countries.

Starting with aid of accident prevention (education) up to the victim's social reintegration (neuropsychology) mark the beginning and the final target of the ongoing (holistic) chain of our multidisciplinary efforts to finally improve the patients (and next of kin) health related quality of life (HRQoL) after brain and spinal cord injuries and impaired higher cortical and spinal cord functioning in the world. The AMN is involved directly and exclusively in non-profit activities.

Methods

The purpose of the World AMN is the advancement of neurotraumatology in research, practical application and teaching. This purpose is to be attained in particular by:
1. The organisation of international congresses as well as participation in such events including regional and national workshops and educational meetings in all fields of neurotraumatology.
2. Commitment to excellence in education through workshops and cooperation intensification of scientific academies, societies, associations as well as research institutions and companies concerned with questions related to neurotraumatology.
3. The communication between national and international academies, societies and associations concerned with neurotraumatology in research, practical applications and education.
4. The goal of the annual/biannual AMN congresses would be to bring the best minds we could gather at a single time to focus on a specific problem that resulted in better knowledge and clinical care over a certain problem within the area of neurotraumatology. For this model to be successful, the meetings by necessity would be small and different people would be attending at different times, depending on the focus of the discussion.
5. The goal of the AMN would be a true continuum of knowledge that could be transferred into a continuum of care. It is also extremely important that the AMN congresses will have a variety of speakers at different levels of their professional development.

6. The site of any meeting should be dependent on the scientific value and theme that that meeting will foster. Dr. Prigatano attempted to establish that tone for the AMN Phoenix meeting when his focus was clearly neurological and neuropsychological collaboration in the treatment of TBI patients. Future meetings should also have a theme and draw on areas of expertise in the locale where the meeting will be held (quotes GP Prigatano).
7. Each meeting should also provide for poster sessions and encourage dialogue between senior and junior colleagues, as well as across disciplines.
8. It is now apparent that intervention has to be based not only on integrated knowledge about anatomical location of lesions, plasticity of the brain, influence of neurobiology and neurochemistry, but mainly on integration of psychological treatment strengthening life transaction (quotes A-L Christensen).
9. AMN academicians welcome more informal opportunity for interaction with colleagues and the possibility of extended discussion on walks, at dinner or over drinks. Something that cannot be easily done when confronted with a huge group of attendees (quotes D. Stein).

Results

AMN Conferences

1. AMN Brescia, Italy, Giorgio A. Brunelli; 29-30 March 2004
Main Topic: Recent advances in neurotraumatology. A multidisciplinary approach. In conjunction with 5th International Symposium on Experimental Spinal Cord Repair and 3rd conference of the WFNS Committee for Neurorehabilitation.

2. AMN Phoenix, Arizona, USA, George P Prigatano; 11-13 November, 2004
Main Topic: Neuropsychological and neurosurgical collaboration in the treatment of TBI patients.

3. AMN Nagoya, Japan, Tetsuo Kanno, 10 March, 2005
Main Topics: Prevention and pre-hospital care of TBI and SCI; trauma in hyperacute, acute, and chronic stage, surgical neurorehabilitation, psychiatric aspects, quality of life after SCI, basic research.

4. AMN Copenhagen, Denmark, Anne-Lise Christensen; 18-20 May, 2006
Topic: Mind and brain in neurotrauma.


AMN Board - April 2008
President Wen-Ta Chiu, M.D., Ph.D., Professor & Superintendent Taipei Medical College, Affiliated Wan-Fang Municipal Hospital Taipei Medical College, Taipei, Taiwan.
Past President George P. Prigatano, Ph.D., Neuropsychologist
3. AMN 2004 Congress President, Professor & Newscom Chair, Department of Clinical Neuropsychology, Barrow Neurological Institute, St. Joseph's Hospital & Medical Center, Phoenix, Arizona, USA.
Honorary members:
Bazom Brock
Giorio A. Brunelli
Anne-Line Christensen
Tetsuo Kanno
Joachim Fuster Ph.D. Professor of Psychiatry and Biobehavioral Sciences, Neuropsychiatric Institute and Brain Research Institute, School of Medicine Los Angeles, California, USA.
Klaus R.H. von Wild

Commentary:
SUMMARY OF 4TH WORLD AMN CONGRESS COPENHAGEN, DENMARK MAY 2006: Respectfully Submitted Donald G. Stein, Ph.D., Emory University, Atlanta Georgia, U.S.A. Chair, Scientific Committee AMN.

One of the major issues facing the field of brain injury rehabilitation is how to bring together the various approaches to patient care and treatment from the early, acute stage of the injury cascade to the longer-term reintegration of the TBI survivor back into the family and community. Thanks to tremendous advances in laboratory technologies and noninvasive imaging of brain activity, considerable progress is being made in understanding the molecular-biological mechanisms initiated by a TBI and the genomic and proteomic changes that unfold over the days and weeks following the primary damage. Unfortunately, much of the new work in molecular neuroscience is published in arcane and often obscure journals read only by specialists. New journals appear almost daily, becoming more and more reductionistic, cellular and molecular in their approaches, with little or no discussion of the functional and holistic consequences of the findings and their implications for the treatment of brain-damaged individuals.

Neuroscientists themselves often disparage translational research in which the end result is the development of a therapy or treatment for a disease condition. In the United States, hardly any graduate students in neuroscience programs ever get to see a patient to better understand the complexities faced by individuals with TBI or other CNS disorders, as they try to adapt to their circumstances. Many rehabilitation clinicians find it difficult to communicate with their basic science colleagues because their terminology, methods and perspectives on what is important are so different, and because basic researchers are often dismissive of clinical practice as having no “scientific” base and being unconcerned with “mechanism” where mechanism means finding a genetic or at least a molecular basis for the condition without regard to psychological implications or outcomes.

The Academy of Multidisciplinary Neurotraumatology was founded in recognition of the growing disparity of viewpoints between clinicians and basic researchers in the field of traumatic brain injury. AMN exists to bring together medical, neuropsychological and basic neuroscience investigators in a collegial environment in which participants can present and discuss their approaches in improving the lives of people with brain injuries. Each year, the two-and-a-half-day meetings focus on a theme. For 2006, this theme was “Bridging the Gap Between Brain and Mind”, organized and hosted in Copenhagen, Denmark by Drs. Anne-Line Christensen and Frank Hamle of the University of Copenhagen and the Center for the Rehabilitation of Brain Injury. The Center, the first of its kind in Europe, was founded over 21 years ago with Dr. Christiansen as its first director.

The Copenhagen Congress was ambitious in its attempts to address one of the most complex philosophical and practical issues in the field, bridging the gap between mechanistic brain processes and the psychological manifestations of these processes in intact and brain-damaged people.
Clinical practitioners in neurorehabilitation, medical specialists in neurology, neurosurgery, pediatrics and students from neurosurgery, neurology and psychiatry came together to discuss a number of sub-themes related to the overall program of what can be done to measure and improve functional outcomes after traumatic brain and spinal cord injuries across the developmental spectrum.

Several historical presentations traced the development of ideas across the last few centuries and showed that the growing contemporary recognition of more holistic approaches to rehabilitation had been developed early in the 20th century by advanced thinkers such as Alexander Luria, Kurt Goldstein and others who pioneered many of the concepts almost taken for granted in today’s neurorehabilitation training and research. Discussions included how to define “functional outcomes”; dealing with coma and “consciousness”; definitions of consciousness in its various manifestations; and the problems of treating patients as unique individuals in the context of their history, learning experiences, cultural influences and stage of maturation and personal development.

There were also sessions on what is currently known in basic research about early “physiologic” intervention in the treatment of TBI—this is, in the first few hours of the injury cascade and how such early interventions could theoretically impact later rehabilitation and physical and cognitive therapy. In other words, can neuroprotection and neuroregenerative therapies, by preserving nervous tissue in the early stages of the injury cascade, provide a better matrix to enhance developmental, cognitive and social rehabilitation processes in the later stages of the patient’s recovery? Another important question that was discussed was whether there is sufficient evidence to show that early alterations in molecular and physiological changes in damaged brain tissue can be “predictive” of the extent of later deficits or improvements in cognitive and social functions.

The meeting ended with a general discussion regarding goals and strategies for basic research and clinical practice in neurotrauma and neurorehabilitation. Participants agreed that a new, less mechanistic, more holistic, patient-oriented perspective is needed—one that recognizes that many higher cognitive processes have a social basis and that complex cognitive, motor and sensory function can no longer be seen as simply mediated by specific genes, receptors or highly localized brain regions. If acute-stage treatments and later-stage cognitive rehabilitation strategies are to realize their full potential and if molecular neuroscience is to contribute to our understanding of how and under what conditions rehabilitation works, the participants agreed that a better dialog between basic researchers in molecular neuroscience and clinical rehabilitation specialists will be essential. These collegial discussions at AMN meetings are only the first step in the development of more effective treatments, but they are an important and critical step in promoting cross-disciplinary teaching, research and progress in finding a “cure” for TBI and its related disorders.

Legends (5 Figures):

Fig. 1
Founding members AMN Munich, May 2004 (from left, please see also board members).
Anwar M. Ezri, M. D Ph.D, AMN representative of Africa and PanArabic Countries, Professor and Chairman of the Departments of Neurology and Psychiatry, Ain Shams University Clinic, Cairo, Mario Pieseged, Neurologist, first AMN secretary, past-president German Society of Neurotraumatology, Munich with his wife Eva (guest), Shigehiro Kano (guest) and Motoi Shiddea, M.D. Neurosurgeon (guest), Toyoake Aichi, Giorgio A. Brunelli, Japan Tetsuo Kanno, Monika von Wild, Ph.D. and Klaus R.H. von Wild, Wui. S. Poos.

Fig. 2
3rd AMN Nagoya Joint meeting MIN and AMN (from right to left): Armando Bassio, University Professor Emeritus , AMN representative of South America, Past President World Federation Neurosurgical Societies (WFNS), Director of the Buenos Aires Neurosurgical Institute, Buenos Aires, Argentina, Madjid Samii, Prof Dr. Dr. hc. mult., President WFNS, President International Neuroscience Institute Hannover, Germany.
From right to left: far right, third last Keki Turel, Ph.D, FACS, FICS (USA), FABCBS (USA), FANAoOS (USA), AMN representative of India, Past President Asian-Oceania Skull Base Society, Professor and Head Dept. of the Neurosurgery, Bombay Hospital, Mumbai, India; second last Yoshinori Katayama, Tokyo.

Fig. 3
4th AMN Nagoya (from left to right) Alexander A. Potapov, M.D. Founding member and AMN representative of Eastern Europe, Professor of Neurosurgery, Deputy Director of the BURDENKO Neurosurgical Institute, Member of the Russian Medical Academy of Medical Sciences Moscow, Russia. Giorgio Brunelli and Alexandru V. Ciurea, 6th AMN Congress President, Vice President WFNS.

Fig. 4
4th AMN Copenhagen 2006 (from left to right, see also board members): Wai S. Poos, Prof. Sergio Bartuli, Director of the Department of Science and Biotechnology, Biology and Genetics Section, University of Brescia-Italy; Giorgio Brunelli, Anhe-Lise Christensen-Congress President, Donald Stein, Peter Zeeman-Physiotherapist, Centre of Rehabilitation of Brain Injury (CRBI), Klaus von Wild, George Pregassino, Frank H. Hamlet-Neuropsychologist, Co-Chairman 4th AMN, Director of CRBI- Copenhagen, Aase Engberg-DMSc, M.D. Consultant, Department of Neurorehabilitation, Hvidovre Hospital and CRBI, Denmark; Edgar Neugebauer-Prof. Dr. rer. nat. IFOM Institute for research in operative medicine, Professor and Chair of Institute for surgical research, Private University Witten/Herdecke gGmbH, Campus Köln, Germany.

Fig. 5
AMN The main hall, front left Nicole von Steinbüchel Prof. Dr. Founding President of the QOLIBRI society (Quality of life after Brain injury), Director Department of Medical Psychology and Medical Sociology Georg-August-University, Göttingen, Germany, joined by Hans Trüthart, AMN treasurer.

Publications
1. K. K.H. von Wild (Ed.) Re-Engineering of the damaged brain and spinal cord.
University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca, Romania

**Our university's past and present**

The beginnings of the University of Cluj-Napoca can be traced back to the Middle Ages, when the Diet of Transylvania convened in Cluj in 1565 and decreed the foundation of a College. Attempts were made to bring scholars from Switzerland and France to secure the organization. It was the time of the Counter-Reformation offensive, a movement which was gaining ground in Transylvania, especially after the election of Stefan Bathory as Prince in 1571. A decree signed on 12 May 1581 obtained the founding of the University of Cluj, to be led and administered by the Jesuits. The existence of the university was ephemeral. In 1774, the Jesuit College was replaced by another, organized and directed by the religious order of Piarists. In 1781, the German language replaced Latin. This was the time of the enlightened absolutism of Emperor Joseph II. The University underwent several transformations which reflect the socio-political unrest of Transylvania. Under the dual compromise, the Emperor Franz Joseph founded the University of Cluj, on October 12, 1872.

Initially, the Faculty of Medicine was part of the Franz Joseph University. In 1919, Iuliu Hatieganu was named Professor and Dean of the Faculty of Medicine. He gave his first lecture in Romanian, thus founding the higher Romanian Medical education system in Cluj. The Faculty continued to develop its curriculum and increase the number of its disciplines so that in 1948 the Institute of Medicine and Pharmacy was created, along with the General Medicine, Hygiene, Pediatrics, Dentistry and Pharmacy faculties. In the academic year 1990, the Institute became the University of Medicine and Pharmacy, with the following faculties: Medicine, Dentistry and Pharmacy and in 1995 the University was designated as the "Iuliu Hatieganu" University of Medicine and Pharmacy after its first Romanian Professor of Clinical medicine, who also was the first Dean of the Faculty of Medicine.

Today, the "Iuliu Hatieganu" University is a reputable institution, where research and teaching have remarkable national and international results reflected in scientific research, books and studies published by members of our academic staff.

The University management is committed to strive for academic excellence and performance. Our Charter defines academic freedom and university autonomy according to the principles stipulated in The Lima Declaration on Academic Freedom and Autonomy of Institutions of Higher Education (1988) and the Magna Charta of European Universities (Bologna 1988). In 1996, the University participated in a contest organized by PHARE for the selection of primary level university institutions (LOI), and was the only Medical University in Romania designated as a Primary Level University.

The management of the University is assigned to the University Senate, whose president also fulfills the function of Rector, elected representative of the whole University. The executive body of the Senate is the Senate Bureau, which directs the activity of the University and whose mission is to carry out the tasks established by the Senate. The Senate also approves the existence, structure and composition of a number of commissions.

The Senate, the Senate Bureau and the Rector take decisions regarding the main problems of the total education process based on the university autonomy and Charter, respecting the academic freedom and legal provisions established by the Ministry of Education, Research and Youth.

The Senate of the University has the power to award the title of Doctor Honoris Causa, Honorary Member of the Teaching Staff and Distinguished Visiting Professor. Beside these awards, the University awards the following titles: "Iuliu Hatieganu", "Iuliu Moldovan", "Teodor Goineț" and "Gheorghe Bălașcu" for academic or research performance in medicine, dental medicine or pharmacy. These awards are granted to individuals or Departments.

Starting with 2008, the Senate of our University has established the President of the University function. The new structure of the University has five functional faculties, master and doctoral programs, and research domains. All the faculties and departments are organized on the basis of academic excellence.

The Faculties are run by a Dean, Faculty Councils, Head of Departments and Departments. Today, the University has the following Faculties: Faculty of Medicine, Faculty of Dental Medicine, Faculty of Pharmacy, Faculty of General Nursing and Midwifery and the Faculty of Public Health Science.

The curricula is continuously updated and improved according to modern European and world-wide trends. The content of the curricula and its implementation successfully combines tradition and modernism, preparing for the continuing process of professional development. The University wants to ascertain that a student is able to understand everything he/she learns and apply it well, in the same way that they will when they will be qualified to treat patients or perform special technical tasks in their work.

According to the program students are registered with, they can be awarded the following degrees: Licence Diploma (Diploma de Licenta), Graduation Diploma (Diploma de Absolvire), Master Diploma (Diploma de Master), PhD in Medicine, Pharmacy, Dental Medicine (Doctor in Medicina, Farmacie, Medicina Dentara), Diploma of Competence (Diploma de Competenta) or Certificate for Refresher course (Certificat de perfectionare).

A patient’s well-being is an essential element in the work of any medical, dental and pharmaceutical school. Research always serves the purposes of the whole community, being an essential element in the progress of man-kind. Our University enjoys a wide range of national and international research agreements and there is a constant exchange of ideas and academic mobility with countries from all over the world. Research in our University is supported by a variety of sources: the Government, industry and national and international specialized companies.
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Neuroprotection and Neurorecovery in Traumatic Brain and Spinal Cord Injury

Organizers

University of Medicine and Pharmacy “Iuliu Hațieganu”
Cluj-Napoca, Romania

Academy for Multidisciplinary Neurotraumatology

The Romanian Society for the Study of Neuroprotection and Neuroplasticity

Co-organizers

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Faculty in alphabetical order

Osama S. Abdelaziz, Egypt
Silviu Albu, Romania
Giorgio Brunelli, Italy
Anca Buzoianu, Romania
Cristina Chendracu, Romania
Anne-Lise Christensen, Denmark
A. V. Ciurea, Romania
Ștefan Florian, Romania
Völker Hönberg, Germany
Kuo-Sheng Hung, Taiwan
Wagih El Masry, UK
David Mulholland, USA
Dafin Mureșanu, Romania
Gelu Onose, Romania
Claudio Perino, Italy
Wai S. Poon, Hong-Kong
Bogdan Popescu, Romania
Paul Prodan, Romania
Virginia Rotarescu, Romania
Hari Shanker Sharma, Sweden
Horatiiu Stan, Romania
Nicole von Steinbichler, Germany
Ioan Szabó, Romania
Hans Trithart, Austria
Rimantas Vilkis, Lithuania
Pieter Vos, Netherlands
Klaus von Wild, Germany
Barbara Wilson, UK
19-23/ April/2008
6° AMN Congress and Members Meeting
Neuroprotection and Neurorecovery in Traumatic Brain and Spinal Cord Injury

Congress information

Local Committee/Romania
President/Ștefan Florian/Romania

Scientific Secretariat
Romanian Society for the Study of Neuroprotection and Neuroplasticity
Cluj-Napoca, Romania
33A Telegman Street
Office phone: +40264431924
E-mail:office@ssnm.ro

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

Opening hours:
Saturday - 19th of April 2008 12:00 - 18:00 h
Sunday - 20th of April 2008 09:30 - 18:00 h
Monday - 21st of April 2008 08:30 - 18:00 h
Tuesday - 22nd of April 2008 08:30 - 18:00 h

REGISTRATION FEES

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<th>01 Dec 07 / 15 Mar 08</th>
<th>16 Mar 08 / 19 Apr 08</th>
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<tr>
<td>All participants</td>
<td>EUR 275</td>
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<tr>
<td>Residents and students</td>
<td>EUR 100</td>
<td>EUR 150</td>
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Payment Options
The bank data necessary for the payment of the Congress Participation Fee are the following:

The Foundation Of The Romanian Society For The Study Of Neuroprotection And Neuroplasticity
Beneficiary Address: 33 A. Teleorman Street, Cluj-Napoca, Romania
Fiscal Code 18477399
No VAT Number

Bank Details:
Account EUR: RO55 DAFB 1017 0008 9799 EU01
Account RON: RO71 DAFB 1017 0008 9799 RO02
Swift (BIC): DAFBRO22, LEUMI BANK, ROMANIA
Bank address: 31, Piața Unirii Street, Cluj-Napoca, Romania

In order to process your admission fee please fax or email a copy of the payment, as well as your name written in capital letters with the specification “AMN Congress Participation Fee”.

The fax numbers are:
+40264-431 924
+40364-401 482

All members are requested to keep on them the voucher of the membership fee and of the congress participation fee.

CONTACT:
If you need further information regarding payment details, please contact:
Mihaela Rusu/e-mail: mihaela@ssnn.ro
For updates and details please visit our website/www.ssnr.ro

Registration fee for participants includes:
Admission to all scientific sessions during the congress
Program booklet
Free coffee and refreshments during breaks
Free access to lunches and dinners

Congress Language
The congress language is English. Simultaneous translation will not be provided.

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

Name Badges
Participants are kindly requested to wear their name badge at all times during the congress.
The badge constitutes admission to the scientific sessions and gala dinners.

On-Site Registration
On-site registration will be processed on a first-come, first-served basis. Priority will be given to pre-registered delegates.
Depending on the number of on-site registered delegates, availability of congress bags may be limited.

Certificate of Attendance
For a certificate of attendance please come to the registration desk, SSNN booth.

CONTACT:
If you need further information regarding technical details, please contact:
Ovidiu Seljan/e-mail: ovidius@ssnn.ro
For updates and details please visit our website/www.ssnr.ro
Final Program & Abstract Book

The participants document includes the final program and abstract book which will be handed out together with the congress bag at the registration counter. The final program and abstract book is sponsored by an unrestricted educational grant of Ebeve Pharma Austria.

Coffee Breaks

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

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 ROL.

Electricity

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

Time

The time in Bucharest is Eastern European Time (GMT+2).
As of 2002 the city's population was 317,953 (ranked third in Romania after the capital Bucharest and Iasi). The 2007 data published by the National Statistics Institute of Romania puts this figure at 311,400, ranking the city of Cluj-Napoca second only to the capital of Bucharest. Moreover, according to an official in the City Hall, the total population of the city is high as 504,000, including students and other non-residents. The ethnic composition is: Romanians (79.4%), Hungarians (19.0%), the rest being Roma, German and Jewish.

Cluj-Napoca is one of the most important academic centres in Romania. Students count more than a third of the town's population. An important cultural centre, Cluj-Napoca has many museums, theatres, and the like. The “Lucian Blaga” National Theatre, opened on 1 December 1919 in Avram Iancu Square, is the most important theatre in Transylvania. The building, designed by the Austrian architects Helmer and Fellner was built in 1904-1906 to house the Hungarian National Theatre. The building also hosts the Romanian Opera, the oldest lyric and dramatics institution in Romania. The Hungarian Theatre and Opera in Cluj was moved in 1919 to a smaller building where it remains to this day. Cluj-Napoca is very well served in terms of transport and infrastructure for Romanian city standards, being an important element of the national air, rail and road transport networks.

The Cluj-Napoca International Airport (CLJ), located 9 km to the east of the city centre, is the fourth busiest airport in Romania, after the two Bucharest airports (OTP and BBU) and Timisoara airport. Situated on the European route E576 (Cluj-Napoca - Dej), the airport is connected to the city centre by the local public transport company, RATUC, bus number 8. The airport serves direct destinations like Bucharest, Venice, Barcelona, Budapest, Bologna, Frankfurt, London, Madrid, Milan and Vienna. One of the main cultural events that take place in Cluj-Napoca is the Transylvania International Film Festival. The city has also become an important IT sector centre, with over 100 software companies and two universities that provide quality graduate engineers.
Pre & Post Congress Social Activities

In keeping with the tradition of international medical programs, we offer you the chance to organize a broad program of leisure and social activities for the enjoyment of attendees and guests.

Participants will be able to combine a full schedule of scientific programming with the chance to experience Cluj's historical setting and friendly atmosphere.

Pre & Post congress activities are not included in the congress fee.

Please feel free to contact our agency for further information:

S.C. PERFECT TRAVEL S.R.L.
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Saturday, 19 April
13:00 - 16:00  Barbara Wilson/UK - Workshop
Neuropsychological Assessment and Management of People in States of Reduced Consciousness

16:00 - 16:30  COFFEE BREAK

Plenary Session I
Neurorecovery and neurorehabilitation - I
Chairpersons: Klaus von Wild/Germany and Anne-Lise Christensen/Denmark

16:30 - 17:00  Anne-Lise Christensen/Denmark
Neurorecovery in Traumatic Brain Injury

17:00 - 17:30  Barbara Wilson/UK
Rehabilitation for people with deficits in executive functioning

17:30 - 18:00  Klaus von Wild/Germany
Exemplary long term outcome in advanced age after severest TBI following multidisciplinary team approach. Case report and film.

18:00 - 18:10  Discussions

20:00  Reception

20:30  Presidential Dinner

Sunday, 20 April
10:00 - 10:20  Official Opening

10:30 - 11:15  Hari Shanker Sharma/Sweden - Honorary Lecture
Role of Blood-Central Nervous System Barriers in Trauma Induced Behavioral Dysfunction and Neurodegeneration

11:15 - 11:45  Dafin F. Muresanu/Romania - Key Note Lecture
Neuroprotection and Neuroplasticity - Two Aspects of a Continuous Process, Genetically Regulated and Powered by Neurotrophic Factors

11:45 - 12:15  COFFEE BREAK

12:15 - 12:45  Nicole von Steinbüchel/Germany - Key Note Lecture
First results from an international assessment of health-related quality of life in persons after traumatic brain injury with the QoLibri, a specific QOL measure after

12:45 - 13:00  Discussions

13:00 - 14:15  LUNCH

14:30 - 16:30  Presidium’s Board Meeting
15:00 - 16:00 - International Teleconference

16:30 - 17:00  COFFEE BREAK

Plenary Session II
Neurorecovery and neurorehabilitation - II
Chairpersons: Claudio Perino/Italy and Wai S. Poon/Hong-Kong

17:00 - 17:20  Anca Buzoianu/Romania
Neurotrophic factors - pharmacological mechanisms

17:20 - 17:40  Claudio Perino/Italy
Rivastigmine treatment in cognitive and behavioral deficits after T.B.I.

17:40 - 18:00  Gelu Onose/Romania
Complex Mathematical Statistic Analysis Regarding Neuroprotective And Consequent Neurorehabilitative Outcomes, In Patients Treated With Modern Neurotrophic Drugs Cerebrolysin® Or And Actovegin® - Preliminary Results

18:00 - 18:20  Wai S. Poon/Hong-Kong
Cell therapy in Brain Injury

18:20 - 18:30  Discussions

20:30  Gala Dinner

Monday, 21 April
Plenary Session III
Implication of cognition in Neurorecovery
Chairpersons: Barbara Wilson/UK and David Mulholland/USA

09:00 - 09:20  Barbara Wilson/UK
Cognitive Rehabilitation in the Twenty First Century

09:20 - 09:40  David Mulholland/USA
I, the Case: The Effects of Decreased Sensation Following TBI

09:40 - 10:00  Rotarescu Virginia/Romania
Hypnosis can be a good option treatment, in spasticity?

10:00 - 10:10  Discussions

10:10 - 10:40  COFFEE BREAK
Plenary Session IV
Chairpersons: Giorgio Brunelli/Italy and Kuo-Sheng Hung/Taiwan

10:40 - 11:00
Giorgio Brunelli/Italy
Experimental neurotization of totally avulsed brachial plexus by grafting from cortico-spinal tract (below T3): a suggestion for bilateral brachial plexus avulsions or unilateral avulsion with paraplegia.

11:00 - 11:20
Horia Stan/Romania
Reconstruction of skull defects with personalized cranioplasty plates

11:20 - 11:40
Paul Popdan/Romania
Experimental parietal osseous defect reconstruction using new types of biomaterials

11:40 - 12:00
Cristina Chendreau/Romania
Our Experience Concerning The Interferential Medium Frequency Electrostimulation In The Treatment Of Post Sci Neurogenic Bladder

12:00 - 12:10
Discussions

12:10 - 13:30
LUNCH

Ebeve Pharma Symposia

13:30 - 14:00
Bogdan Popescu/Romania
Role of neurotrophins in the genomic response to cerebrovascular disease and brain trauma

14:00 - 14:30
A.V. Ciurea/Romania
Cerebrolysin – important therapeutic option to improve outcome in SBI

14:30 - 15:00
Geu Onose/Romania
Complex Mathematical Statistic Analysis Regarding Neuroprotective And Consequent Neurorehabilitative Outcomes, In Patients Treated With The Modern Neurotrophic Drug Cerebrolysin® - Preliminary Results

15:00 - 15:30
COFFEE BREAK

Plenary Session V
Chairpersons: A.V. Ciurea/Romania and Hans Trithart/Austria

15:30 - 15:50
A.V. Ciurea/Romania
Post-traumatic Hydrocephalus in Severe Traumatic Brain Injury [An Intracranial Pressure Monitoring Study]

15:50 - 16:10
C. Albu/Romania
Head trauma: Hearing Loss and Dizziness

16:10 - 16:30
Szabo Ioan/Romania
Retention intramorbital foreign bodies

16:30 - 16:50
Hans Trithart/Austria
Withdrawing of life support in patients with severe brain injury – ethical considerations

16:50 - 17:00
Discussions

17:00 - 17:30
COFFEE BREAK

17:30 - 19:30
AMN Members Meeting
Elections of Vice President, Secretary, Treasurer, Second Treasurer

20:30
Gala Dinner

Plenary Session VI
Clinical studies regarding prognosis in TBI
Chairpersons: Stefan Florian/Romania and Pieter Vos/Netherlands

09:00 - 09:20
Kuo-Sheng Hung/Taiwan
Preventing Traumatic Brain Injuries-Lessons from Taiwan

09:20 - 09:40
Stefan Florian/Romania
A prognostic model for traumatic coma

09:40 - 10:00
Pieter Vos/Netherlands
Is it possible to predict favourable long term recovery in the early phase after mild traumatic brain injury?

10:00 - 10:20
Volker Homborg/Germany
Does one hemisphere help the other? The impact of contralesional activity to recovery

10:20 - 10:30
Discussions

10:30 - 11:00
COFFEE BREAK

Plenary Session VII
Recovery after Spinal Cord Injury
Chairpersons: Wagih El Masry/UK and Rimantas Vilcinis/Lithuania

11:00 - 11:20
Wagih El Masry/UK
Special Characteristics and Management of Patients with Spinal Injuries

11:20 - 11:40
Giorgio Brunelli/Italy
Spinal cord repair by CNS PNS connection

11:40 - 12:00
Rimantas Vilcinis/Lithuania
Aggressive or conservative treatment after traumatic brain injury: which is neuroprotective?
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| 12:00 - 12:20 | **Osama S. Abdelaziz/Egypt**
Effects of "Cerebrolysin" Administration on Experimental ASCI |
| 12:20 - 12:30 | Discussions                                                              |
| 12:30 - 13:30 | **LUNCH**                                                                |
| 13:30 - 16:30 | **Volker Hönberg/Germany/Workshop**
Modular Motors Therapies in Neurological Disorders |
| 20:30       | Farewell Party                                                           |
A potentially new pharmacological therapy for acute spinal cord injury (ASCI): effects of "Cerebrolysin" administration on experimental ASCI

Osama S. Abdelaziz*, Yasser M. Elbanna*, Alaa M. Elnaggar*, Ghada M. Mourad**, Sahar A. Mahmoud** / Department of Neurosurgery * and Department of Histology **, Faculty of Medicine, Alexandria University, Egypt

Abstract
Cerebrolysin is a neuropeptide-derived synthetic preparation produced by enzymatic breakdown of lipid-free animal neuroproteins. It regulates the neuronal energy metabolism and is supposed to afford brain protection by its neurotrophic stimulation. Although the beneficial clinical effects of Cerebrolysin have been well established in the management of acute cerebral injuries, yet its administration in human spinal cord lesions has not been attempted, to the best of our knowledge. The present study aimed at assessing the possible neuroprotective effects of Cerebrolysin on an experimentally induced acute spinal cord injury in dogs depending on clinical and histological bases.

Methods
The experiment was conducted on adult male dogs, which were divided among: A negative control group (subjected only to laminectomy of the mid-thoracic vertebrae), a positive control group (subjected to laminectomy and Cerebrolysin administration) and a spinal cord injury group (injury was induced by compression using an inflated balloon of the Folley's catheter over the mid-thoracic spinal cord segments). The injured animals were subdivided into animals sacrificed 24 hours after the injury, animals sacrificed after 4 weeks from the injury without receiving any treatment and animals treated with Cerebrolysin then sacrificed 4 weeks later. Clinical follow up of the experimental animals was daily recorded. Serial sections were prepared from the whole injured spinal cord segments of the different sacrificed groups. They were examined histologically by routine haematoxylin and eosin, and by toluidine blue stains.

Results
The end results proved that Cerebrolysin achieved satisfactory protection to the nervous tissue. It prevented the setting in of degenerative changes in the majority of the anterior horn neurons of the injured spinal cord segments and subsequently its propagation in the axonal nerve fibers in the white matter. Cerebrolysin treatment also resulted in gradually progressive clinical improvement in neurological function.

Conclusion
The present study provided an experimental clinical and histological document proving the benefits of Cerebrolysin as a promising, safe drug for the management of acute spinal cord injuries. It is suggested that studies should be extended to investigate a possible similar effect in the case of human acute spinal cord injuries as well as in chronic lesions.

Key words
Cerebrolysin, neuroprotection, spinal cord injury.
Spinal cord repair by CNS PNS connection

Objective
Research (started in 1980) was done on rats and monkeys to show that muscles surgically disconnected from lower motor neurons and connected with the axons of the upper motor neurons responded to their stimuli.

Methods
Four groups of monkeys were operated on by connecting the cortico-spinal tract of the above the lesion cord with the motor nerves of the lower extremities. The experiment was done with good results checked by EMG and histology. Recently three human beings have been operated on with this surgical protocol.

The first one who underwent Guillotine severance of the cord by dislocation of T8 is now able to walk with triple paresis.

Research on animals (rats) showed that the motor end-plates change their receptors from cholinergic into glutamatergic.

Results
Functional reinnervation of the muscle was shown by EMG and immunostaining. Genes coding for receptors as well as the neurotransmitter were searched. The administration of curare paralysed all the muscles but not the operated one, whereas GYK (inhibitor for glutamate) paralysed the operated side. Immunoblot test showed that the operated muscle contains vesicular glutamic transporter-1 (VGlut1) whereas the control muscle still contains ChAT and VACHT.

Furthermore this research demonstrated that the brain has a marvellous plasticity at the level not only of cortical areas but also of single neurons spread in different areas which fire simultaneously under voluntary command. What is more muscles receiving axons from neurons spread in the same various areas function selectively without co-contractions.

Conclusion
The CNS-PNS connection is effective in both research and clinical surgery.

ANCA BUZOIANU/Romania

Neurotrophic factors - pharmacological mechanisms

University of Medicine and Pharmacy, Cluj-Napoca, Romania

Most of nowadays pathologies involve cellular self-programmed death - apoptosis. There were described several pharmacological ways to stop or limit this process, but extremely few are applicable in the clinical practice. Neurological conditions, due to their etiopathology, involve in a much greater proportion the apoptosis-like and anokis events. The Nervous System represents an enormous challenge in respect of an efficient treatment not only because of the great number of tightly interconnected cellular types, but also because of its physical inaccessibility. Though, a certain number of therapies was developed in the last years. Noticable results were obtained with neurotrophic factors, proteins that are synthesized in a natural way and characterized by the following effects: neuronal differentiation, preservation of the nerve cell functional integrity, protection against degeneration and lesions. Also neurotrophic factors are involved in neuronal division. Neurotrophic factors control neuronal proliferation and differentiation, and are vital for the ontogenic development of the central and peripheral nervous system. Deficiencies in the expression of neurotrophic factors, either primary or secondary, cause morphological anomalies and functional disorders. The neurotrophic factors therapy rises several problems, the main one consisting in the fact that they are proteins injected in the blood stream and even if they will not be destroyed by several plasmatic factors, they will stop at the blood-brain barrier which is impenetrable for most of the plasmatic molecules. Some pharmaceutical products have solved these problems and are now used with good results, opening an entirely new chapter in the modern neurological pharmacology.
Neurorecovery in traumatic brain injury

Center for Rehabilitation of Brain Injury, University of Copenhagen, Denmark

Positive reinforcement for neurorecovery after brain injury has in the later years been gained from neuroscience. Evidence of brain plasticity and brain repair together with awareness of the great complexity and the interactive character and the individuality of brain function have created new hope, but have at the same time created demands for methods capable of integrating the new knowledge, that advanced diagnostic tools such as the scanning techniques have revealed.

Luria's theories of the higher cortical functions and their remediation have also become elaborated by neuroscience. New insight in present day's network theory and the understanding of the importance of the cultural influences for the building the brain have refined rehabilitation methods and become far more complex, i.e. to a higher degree engaging the patient's motivation and own goals.

A trend that has won acceptance by the most advanced neurosurgeons and neurologists, members of the AMN, is the need in the need for a closer collaboration of all the professionals involved in the treatment of the brain injured patients during the whole course of recovery, in the stages from the acute care, the post acute rehabilitation to the social integration phase. Rehabilitation work according to these principles, including outcome research, will be described, leading to the conclusion that comprehensive rehabilitation can be successfully performed, be cost effective and secure a way of life that is satisfying to the individual who has experienced a brain injury, his/her family and to society as a whole.
Cerebrolysin important therapeutic option to improve outcome in SBI

Cludra Alexandru Vlad**, Dafin Muresanu***, Eva Gheorghita***, Oana Gheu**
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**** Chairman Department of Neurology, University of Medicine and Pharmacy
“Iuliu Hatieganu”, Cluj-Napoca, Romania

Traumatic brain injury (TBI) represent a very important cause of disease in all western countries. TBI delimitation was performed by Teasdale and Jennett (1974), in Glasgow Coma Scale (GCS), important standard in the assessment of these brain lesions: minor (13-15), moderate (12-9), severe (8-3). This standard (“goldened”) scale in TBI was established by motor (1-6p.), verbal (1-5p.), eyes (1-4p.) response at external stimuli. For children (0-16 years) in all hospitals was Children Coma Scale (CCS), also quantification 3-15 points. Severe brain injuries (GCS 3-8) represent an important cause of mortality and morbidity, especially in patients with active period of life (20-40 years old). Included criteria: the authors studied non selected consecutive 88 patients with SBI (between 66 years old), 53 male and 35 female in period 2003-2006 (4 years) at the Hospital “Bagdasar-Arseani”, Bucharest. The distribution by age was children 30 cases (34,1%) and adults 58 cases (65,9%). The most frequent cause of SBI is represented by the car accidents (car to pedestrian, passenger vehicle) 58 cases (65,9%), followed by falls different higher 23 cases (26,1%) domestic accidents 4 cases (4,5%) and sport traumas 3 cases (3,4%). All intracranial haematoma was operated in the first 6 hours after admission. Excluded criteria: all patients in SBI status with multiple trauma or with without intracranial haematoma. All 88 cases were monitoring in intensive care unit (ICU). At admission GCS 3-4 was 26 cases (29,5%), GCS 5-6 was 25 cases (28,4%), GCS 7-8 was 37 cases (42%). In all cases the admission CT scan was performed in the first 6 hours. The following CT scan was performed at 24, 48, 72 hours and 1 week to verified the brain lesion and intracranial mass lesion. In 50 cases (54,1%) intracranial mass lesions undergone to the operative procedures: extradural haematoma 14 cases (15,9%), subdural haematoma 10 cases (11,3%), intraparenchymal haematoma 6 cases (6,8%). Additional in 10 cases (11,3%) we report penetrated head injury. Also, CT scan showed hemorragic contusion 25/88 (28,1%) SAH in 27/88 cases (30,7%), hypodense (ischemic ariosis 25/88 cases (28,4%), cerebral edema 40/88 cases (45,5%) and SAH 19/88 cases (21,8%); DI was diagnosis only by MRI and the first week post-injury. In our data surgical evacuation of mass lesions was performed as needed, but only five decompression craniotomy was done. In our study no mortality was registered in the group of ICP = 20 mmHg, all the 28/88 cases (31,8%) which died had ICP > 20 mmHg. In the literature there are studies which correlate the GDS with GCS, metabolic, hemoglobin, radiological and clinical profiles. The predictors outcome factors in this series were: early neurotrophic drugs (e.g. Cerebrolysin) and active neurorehabilitation were done immediately after admission and neuroimaging diagnosis in intensive care unit. In our experience the Cerebrolysin are an significant improvement in post TBI. Cerebrolysin (mixture of low molecular polypeptide; extracted from pig brain) increase motor function, enhance the cognitive performances, increase memory & attention, improve of brain bioelectrical activity. In our data Glasgow Outcome Scale (GOS), good recovery was in 23 cases (28,4%); moderate disability 9 cases (10,2%), severe disability 22 cases (25%), vegetative state 6 cases (6,8%), death 26 cases (29,5%). At admission GCS 7-8 was preponderent 37 cases (42%) which it was in concordance with the global outcome. The psychological support in all SBI is necessary to obtain social, family and professional integration.

Conclusions

SBI represent an important medical and neurological problem. Many therapeutical factors may improve the outcome in SBI (Early Neuroprotection, Neuroplasticity, Neuroregeneration, Neurorehabilitation and Psychological Support). Neurotrophic factors (e.g. Cerebrolysin) can improve the global outcome.

The psychological support in all SBI will be necessary in both: patient and his/her family, for increase compliance at treatment to a very good recovery or autonomy and to obtain social, familial and professional integration and, finally, to a highQoL.

Keywords

traumatic brain injury (TBI), GCS, severe brain injury (SBI), DI, ICP, neuroprotection, Cerebrolysin, neurorehabilitation, outcome, GOS.

ȘTEFAN FLORIAN/Romania

A prognostic model for traumatic coma

Florian**, J., Blaga**, A.L., Andrușoni†, Zorina, Scutarius**, Monica
University of Medicine and Pharmacy „Iuliu Hatieganu” Cluj-Napoca – Neurosurgical Department, Cluj County Emergency Hospital

Objective

The development of a prognostic model for the comatose patients with traumatic brain injuries based on several parameters, which are easily obtained from these patients on admission. The accuracy of this model is compared to that of an early one obtained in 1998; the discussion is about the ethical aspect of having and using such a prognostic model.

Material and method

This study does a retrospective analysis of a group of 206 comatose patients with traumatic brain injuries admitted between 1° of January 2003 and 31° of December 2004 in the Neurosurgical Department of Cluj County Emergency Hospital. At these patients we registered 10 clinical and radiological parameters. From these, only four parameters proved to be statistically significant for the prognostic model: age, pupillary aspect, GCS on admission and the brain injuries from the CT-scan; the treatment was considered to be standard for the same kind of patients. To analyse these data and the importance of each parameter for the prognostic, we used Epilinfo 3.2.2, 2005 version and the linear regression method.

Results

Besides the prognostic model and its performances, we compare the accuracy of this model with the one obtained in 1998, when the brain injuries were quantified without a CT-scan. The model obtained in 1998 applied to the researched group in 2004 predicted death in 102 of the 150 cases of death, and survival in 70 out of 96 cases of survival; the model obtained in 2004 predicted correctly 96 out of 110 deaths and 82 out of 96 survivals. Statistically speaking, the model obtained in 1998 describes the survival within the group with only 72.91% of sensibility and with 92.72% of specificity while the model obtained from the 2004 group of patients predict the survival with 85.42% of sensibility and 87.27% of specificity.

Conclusions

The prognostic model that we used in 1998 did not prove such a high precision for the patients in 2004, most probably because of the fast changing diagnostic opportunities and treatment protocols for this kind of patients. These cases arises the necessity to develop a new model.

Keywords

prognosis model, coma, traumatic brain injuries.
Does one hemisphere help the other? - The impact of contralesional activity to recovery

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It has remained an enigma in how far after unilateral lesions to sensoric-motor cortices the contralesional corresponding intact cortices may contribute to the modulation of function. This basically can happen in both ways, either improving or even impairing function.

We will present evidence from both refined double stimulation TMS-techniques and fMRI that contralesional excitation is part of an adapted plastic network to improve motor function after unilateral sensory motor cortical lesions.

Preventing traumatic brain injuries-lessons from Taiwan

Wen-Ta Chiu and Kuo-Sheng Hung
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Objective
To determine whether helmet law implementation and enforcement can reduce motor-vehicle injury deaths, death rate and the year of potential life lost (YPLL).

Summary Background Data: Traumatic brain injuries (TBI) associated with motorcycles are major issues in surgery. Due to rapid economic growth and affordable motorcycles, developing countries face an increasing burden of motorcycle-related TBI. Taiwan has had TBI problems for the past 30 years. We developed a cost-effective model which significantly reduced TBI-related deaths.

Methods
We undertook a population-based study using registration data of motorcycle number, total road length, population, motor-vehicle-injury deaths and TBI between 1991 and 2006 in Taiwan. A motorcycle helmet law was implemented and enforced on June 1, 1997, and we measured the differences of motor-vehicle injury deaths, death rate and YPLL before and after helmet law.

Results
The number of motorcycles grew by 82% from 7,168,517 units in 1991 to 13,557,028 units in 2006 (p<0.0001), and the motor-vehicle death rate was dropped down 37% from 1991 to 2006 (p<0.0001). Furthermore, we found that the initial 7,322 motor-vehicle injury deaths in 1991 were reduced to 4,637 deaths in 2006 (p<0.0001), and that YPLL was decreased significantly after the law (p<0.0001).

Conclusions
Implementing and enforcing motorcycle helmet law played critical roles in reducing motor-vehicle injury deaths. Our experience and process of helmet use enforcement in Taiwan potentially could be adapted as a model for other countries.
I, the case: the effects of decreased sensation following TBI

Community Neuro-Rehabilitation, Westminster West, USA

Introduction
This self-report chronicles fifteen years of secondary effects begun after the onset of a TBI in August 1993. While immediate post-MVA care focused on visible, emergent injuries, the TBI (GCS=11; GOS=12) and other neurological damage masked latent serious conditions. With decreased sensation, the patient was not aware of the presence or acuity of undiagnosed trauma. Background: The patient's head struck the vehicle's interior roof and door frame resulting in blunt trauma to the left frontal, parietal, and temporal regions and consequential manifestations that included nominal aphasia, Broca's aphasia, short-term memory processing deficits, epilepsy, and post-concussive syndrome. Scars indicated damage largely to white matter and foci of gliosis. Further examinations indicated damage to mid-brain regions from brain stem trauma. Emergent conditions went undiagnosed initially due to the patient's decreased sensation near abdominal organs and mid-brain deficits. Key patient complaints were (1) no pain compliance (2) little medical attention). For example, fifteen weeks post-MVA, the patient spent days on intravenous antibiotics in a level-one trauma center. Trauma surgeons began a laparoscopic cholecystectomy for a presumed gall bladder infection, but found that the patient had harbored sepsis throughout the abdomen. Overall, some symptoms appeared immediately, such as neurogenic bladder, and chronic losses of sensation of thirst, hunger, satiation, or accurate temperature sensing, leading to periods of dehydration, overheating, or over- or under-eating. Damage to abdominal muscles caused restrictions to sections of the stomach and intestines that were not sensed until ten years after onset, as symptoms became severe and conditions dangerous. However, signs included frequent, mild barking soon after eating fresh vegetables and slight regional (non-specific) tenderness. In addition, recurring episodes of lymphedema, cellulitis, and tongue lesions have resulted in ongoing tests to determine their frequency, sequence, and causes. No underlying pathology exists to explain any or all of the symptoms. As to rehabilitation, the patient has initiated use of bio-feedback and deep-tissue massage techniques to learn to use peripheral nerves to monitor adjacent, underreporting areas.

Results
First, I, the case, am not a completely reliable reporter to physicians and other TBI providers. Typically, my diminished sense of pain impedes my sense of acuity or ability to pinpoint the location of tenderness until a condition is widespread, if not acute. Second, preventable acuity has resulted in an increased use of antibiotics, urgent surgical interventions, and extended recovery time for conditions that might have been treated more simply at an earlier stage, if properly recognized. Third, for me psychologically, living with decreased sensation in certain body regions has meant ambivalence between blessings of not feeling all of the pain that I might and the benefits that pain can signal the need to get help to avoid more serious consequences. Fourth, when accurate, using peripheral systems has increased my ability to contribute to my TBI care. Although fifteen years post-MVA, retraining my brain to consider peripheral nerves has resulted in tests that have indicated a mild to moderate constriction of the large intestine. Conclusion: In my case, decreased sensation regionally may have originated from direct trauma force, may be a secondary effect of my TBI, or a combination of both. Undoubtedly, decreased sensation has led to prolonged, acute episodes. However, training my brain to interpret peripheral symptoms for adjacent areas may offer a promise of increased reliability in self-reporting systems, less acuity of conditions, and overall improved quality of life.

Neuroprotection and Neuroplasticity - two aspects of a continuous process, genetically regulated and powered by neurotrophic factors

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Neurotrophism, neuroprotection, neuroplasticity and neurogenesis are fundamental biological processes which act naturally and permanently in the nervous system. Several etiological agents trigger common pathophysiological mechanisms which are capable sometimes to defeat the above mentioned fundamental biological mechanisms, generating extremely different neurological diseases, with an acute, chronic or hyper chronic evolution. The molecular cascades triggered by the pathophysiological mechanisms are basically similar, no matter the etiological diversity or the clinical polymorphism, leading to necrotic or apoptotic-like cell death. Blocking intelligently and in time these cascades, attenuates the cell death generating pharmacological neuroprotection which comes to complete the endogenous neuroprotection defeated by the pathological process. Stimulating intelligently and in time the mechanisms of neuroplasticity and natural neurogenesis leads to functional and structural neuroreparation, followed by a correct and quick clinical rehabilitation. Nowadays, neuroprotection and neuroplasticity are not just theoretical large animals but are in the best case experimental realities. It is true that clinical successes are still modest, but we have learned from failures. We can not therapeutically control complex pathophysiological cascades with only one neuroprotective molecule having a single action mechanism. In neuroprotection, the future is combination therapy. Presently different strategies are developed, for different pathologies, combining different molecules. The future belongs to rigorously controlled drugs, having a pharmacological mechanisms as close as possible to the biological mechanisms, with minimum toxicity, having a pleiotropic effect on the pathological cascades, which acts reversibly on neuroprotection, a limited period, without blocking secondary repatory neuroplasticity. Such molecules are the neurotrophic and neurotrophic-like factors, which stimulates even directly the neuroregeneration process. Good effects on neuroregenerative stimulation were demonstrated also by certain neurotransmitters (dopamin, acetylcholine) and molecules belonging to the class of serotonin reuptake inhibitors (SSRIs). Neuroprotection and neuroplasticity, processes that are apparently independent, with different control, represent in fact two sequences of the same process. Every lesion triggers a neuroprotective endogenous reaction, after a latency period. A reparatory endogenous process (known as endogenous neuroplasticity) follows this answer also. Continuously understanding the nature of both forenamed processes and the manner of switching from neuroprotection to neuroplasticity, will lead to the improvement of specific pharmaceutical strategies. Brain ischemia activates hundreds of genes, genes involved in excitotoxicity, inflammatory response and neuronal apoptosis, but also genes involved in neuroprotection. Several genes may participate in both cellular responses. Thus is very important to isolate the candidate genes for neuroprotection strategies. Although there is an increasing number of available treatments, only a very few molecules had some positive outcomes. Neurotrophic factors are among the few active molecules that positively control both processes. Because neurotrophic factors manage to control the sensitive balance of the two named processes, their chances of large-scale applicability as a treatment in different neurological disorders are highly significantly. Keywords: Apoptosis; Excitotoxicity; Inflammation; Neuroplasticity; Neuroprotection; Neurotrophic factors.
Complex mathematical statistic analysis regarding neuroprotective and consequent neurorehabilitative outcomes, in patients treated with modern neurotrophic drugs Cerebrolysin® and Actovegın® - preliminary results

* Clinical Hospital “Bagdasar-Arseni”, Bucharest
** Neurological Clinic of the University of Medicine and Pharmacy
*** National Institute of Gerontology and Geriatrics “Ana Aslan”, Bucharest
**** Metrorex - the Medical Service - Bucharest
***** National Center for Pediatric Rehabilitation, Bucharest

Objective
Assessment of the outcomes obtained in our Clinic with Cerebrolysin®, Actovegın® and combined neuroprotective/neurotrophic therapy.

Study design: comparative analysis between Cerebrolysin® (10 ml x 2/ day, i.v. x 3 weeks), respectively Actovegın® (200 mg x 2/day, orally x 3 weeks) only treated patients, vs. patients approached with combined Cerebrolysin® + Actovegın® therapy (all the inpatients received aside, a rather equivalent complex, pharmacological and physical therapy).

Material and Method
Three homogenous lots of patients, admitted during 2007: 34 with Cerebrolysin® (12F, 22M; mean age: 54.1 years old); 41 with Actovegın® (17F, 24M; mean: 56,3 y.o.); 45 with Cerebrolysin® + Actovegın® (16F, 29M; mean: 56,9 y.o.). The total number of assessed items was 13; the most contributive were: admission/ discharge Functional Independence Measure (FIM), evolutive status at discharge (ES), number of physical therapy days (PT), hospitalization days (H) and respectively, days till the first independent walk recovery (IWR), can assisted walk recovery (CWR) stairs ascent/ descent recovery (SR). The mathematical methods used were multiple correlations and regressions.

Results and Discussion
For the Cerebrolysin® lot, the tightest correlations were PT. H (r = .99) and CWR-SR (r = .96); the aferent regression analysis emphasized that the dependent variable FIM was tightly related with the independent variables: ES (r = 8.929; sig. t = .000) and FIM at admission (r = 8.927; sig. t = .000). For the Actovegın® lot, the tightest correlations were PT. H (r = .97) and CWR-SR (r = .87); the aferent regression analysis emphasized that the dependent variable FIM at discharge was tightly related with the independent variables: FIM at admission (r = .934; sig. t = .000) and age (negative, t = 4.314; sig. t = .001). For the Cerebrolysin® + Actovegın® lot, the tightest correlations were H PT (r = .97) and FIM at discharge - FIM at admission (r = .76); the aferent regression analysis emphasized that the dependent variable FIM at discharge was tightly related with the independent variables: FIM at admission (t = 11.647; sig. t = .000) and ES (r = 8.123; sig. t = .000).

The tight correlation (negative, conversely to the most other ones), within Actovegın® lot, with the age, intimate unrolls neuroplasticity action of these modern neurotrophies - dependent on remaining neural pool - by taking over compensation/rehabilitation.

Conclusion
Our preliminary, but reliable results, emphasized a significant variance, favourable to an important therapeutic benefit for the combined use of Cerebrolysin® + Actovegın®.

Key words
Cerebrolysin, Actovegın, combined neuroprotective/neurotrophic therapy, neurorehabilitation/recovery
Rivastigmine treatment in cognitive and behavioral deficits after T.B.I.

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**Neurological Rehabilitation, Neuroscience, Dept., AUSL 9, Grosseto, Italy

Neuropsychological problems in patients with sequelae of traumatic brain injury (TBI) primarily involve frontal and temporal lobes functions, (eg. attention and memory), partly correlated to injuries of the cholinergic system (1). Involvement of these functions leads to cognitive and behavioral disorders, which may greatly interfere with level of performance, and also compromise social integration. These considerations have encouraged, in recent years (2,3,4,6) the use of acetylcholinesterasic inhibitors, with preliminary results leading to further studies.

We are now able to report personal results relative to rivastigmine treatment in 14 patients with chronic cognitive and behavioural problems subsequent to TBI. This sample has an average age of 34.5±11.1 yrs. and average schooling of 11.1±2.9 yrs., and is taken from two Italian Centers specialized in long-term TBI rehabilitation. All patients were back at home, at the end of their current rehabilitation procedures, and were clinically judged at a stabilized plateau. Upon receipt of informed permission and consent, they were evaluated with a neuropsychological battery as baseline, and retested at the end of a six month treatment period. Rivastigmine dosage was titrated, using up to 3 mg h.i.d.

Results showed an average increase in primary reaction time, verbal learning, memory and behavioural performance in everyday life. In particular, the Rivermead Memory Test delta was statistically significant (p = 0.035), as was the Neuropsychiatric Inventory Behavioural Test (p = 0.001).

Furthermore, the drug was well tolerated and there were no significant side effects.

Some subjects also reported improvement of function in daily activities, and QoL increased satisfaction

According to these preliminary results, it would seem that rivastigmine therapy could be useful in determining a better outcome in adult patients suffering from acquired traumatic brain injury.

Keywords
Traumatic Brain Injury, Cholinesterase Inhibitors, Cognitive Impairment

Cell therapy in brain injury

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The clinical results and their mechanism of cell therapy for brain injury will be reviewed. The roles of growth factors, nerve fibre regeneration, cellular migration and differentiation will be discussed and future direction of research formulated.
Experimental parietal osseous defect reconstruction using new types of biomaterials

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Objectives
The present abstract describes a surgical procedure for reconstruction of a parietal osseous defect, using two new types of biomaterials: the deciduous red deer antler as a reconstruction material and the egg membrane as a barrier membrane.

Material and method
The animals used in this experiment were 4 rabbits, in which we realized surgically parietal osseous defects. In the first two rabbits we performed osseous plasties using powder of sterile red deer antler and bone spongiosa without using barrier membrane, followed by the nature of anatomical plans. In the other two rabbits, we also applied powder of red deer antler and bone spongiosa protected by the egg membrane.

Results
In the first two cases, the obtained results were unsatisfactory from the point of view of osseous reconstruction. In the other two cases, of which one deceased in independent conditions from the surgical moment, we noticed a bilateral parietal reconstruction at the bone defect's level.

Discussions
The article discusses a premier in the field of biomaterials, namely the study of reconstruction of an osseous defect at the skull level, using the deciduous red deer antler as a biomaterial, protected with a natural barrier, more precisely, the egg membrane.

Conclusions
The obtained results in the case of reconstructing skull bone defects using red deer antler alongside with the protection of the egg membrane were positive, but extensive in vitro and in vivo studies on large groups are necessary to confirm the usage of these materials on a large scale.

Keywords
Osseous reconstruction, deer antler, biomaterials

Hypnosis can be a good option treatment, in spasticity?

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Objective
Hypnosis effects' evaluation on spasticity in spinal cord injury patients trained in self knowledge and self hypnosis. To increase Quality of Life and to develop same special skills as coping through re-organize and re-orientation of patients with spinal cord injury to self knowledge and self analysis, in psychosomatic context.

Context
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Method
Between 2002 and 2004, on 35 patients with spinal cord injuries and different degree of spasticity apply, on several times, a hypnosis procedure was applied to sharpen patients ability of self-hypnosis. First meeting was focused on mood examination (Cattell Anxiety Questionnaire), in order to find their retrospect to self image and the Ego force, which leaded the intervention.

Results
Hypnosis as a technique, included in an eclectic psychotherapy, offers direct results through reducing spasticity and through access to patient's inner resources. These lead to an increased motivation for behavioral integration and to a strong Ego with a better responsibility for the own recovery. Paranoid defenses, through a weak Ego and unaccepted self image, build obstacles which make the patient give up. This situation asks from psychologists to use eftisxian approaches for diminishing defenses and then to begin the hypnosis training ability.

Conclusions
Training the patient through hypnosis to autohypnosis allows spasticity control, increases compliance to treatment, efficient involvement in neuromotor rehabilitation and improves the QOL.

Keywords
Hypnosis, spasticity, spinal-cord injury, rehabilitation, QOL.
Role of blood-central nervous system barriers in trauma induced behavioral dysfunction and neurodegeneration

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The microenvironment of the central nervous system (CNS) is precisely and meticulously maintained by a set of dynamic physiological barriers located within the cerebral microvessels of the brain (Blood-Brain Barrier) and the spinal cord (Blood-Spinal Cord Barrier). Furthermore, the epithelial cells of the choroid plexus separating the blood and cerebrospinal fluid (CSF) interface constitutes the Blood-CSF-Barrier. The physicochemical properties of these cellular barriers are quite comparable to that of an extended plasma membrane. Thus, the BBB and the BSCB are quite tight to small molecules (12 Å, Lanthanum ion), whereas BCSF is less restrictive in nature. On the other hand, the ependymal cell lining of the cerebral ventricles and spinal canal, often referred to as CSF-Brain Barrier do not normally restrict the passage of several small sized molecules. However, both exogenous and endogenous protein transport across these blood-CNS-barriers (BCNSB) is severely restricted. There are reasons to believe that entry of proteins into the CNS microenvironment induces vasogenic edema formation that is primarily responsible for cell and tissue injury. These BCNSB are often compromised under a wide variety of psychological, traumatic, metabolic, ischemic, environmental or chemical insults leading to neuronal, glial and axonal damage. Opening of the BCNSB to various endogenous or exogenous substances and proteins alters the molecular, cellular, biochemical, immunological and metabolic environment of the CNS leading to abnormal neuronal function and/or brain pathology. Experiments carried out in our lab since last 30 years revealed that breakdown of the BCNSB plays an important role in behavioral dysfunction and brain pathology in traumatic injuries. This is supported by the findings that drugs, such as neurotrophic factors or cerebrolysin, enzyme inhibitors blocking the synthesis of serotonin, prostaglandins, histamine, nitric oxide synthase or heme oxygenase, as well as antibodies directed against serotonin, dynorphin, histamine or Tumor necrosis factor-alpha markedly attenuate the BCNSB disturbances and behavioral dysfunctions following CNS injuries. These drugs and antibodies are also able to thwart edema formation and cell injury and thus enhance neuroprotection. Taken together, these observations strongly suggest a prominent role of the BCNSB as a “gateway” to the brain pathology and repair in neurological diseases.
First results from an international assessment of health-related quality of life in persons after traumatic brain injury with the Qolibri, a specific QOL measure after

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Background
Health-related quality of life (HRQOL) is a relatively new outcome variable in the field of traumatic brain injury (TBI). Validation of generic, cross-culturally (cc) administered HRQOL measures in persons after TBI is not yet well established. Disease-specific HRQOL instruments do not exist in an international context. The objective here is to present the QOLIBRI (Quality of Life after Brain Injury), a TBI specific HRQOL measure for use and first results on subjective well-being of persons after TBI.

Method
1444 patients after TBI from 10 countries and 8 languages filled out a preliminary version of the QOLIBRI assessing HRQOL within six domains (physical condition, thinking activity, feelings and emotions, functioning in daily life, relationships and social/leisure activities, current situation and future prospects). Psychometric testing was performed in order to obtain a psychometrically stable version with a reduced number of items.

Result
The present version of the QOLIBRI integrates especially disease-specific issues of TBI patients on four satisfaction scales (cognition, emotion and self-perception, daily life and mobility, the social dimension with 29 items) and five overall items. Additionally, two “bothered”-scales are included. The “bothered”-scales (negative feelings, restrictions/problems) show acceptable psychometric quality on item and scale level covering 14 symptoms/problems. However, analyses concerning item reduction are still ongoing.

Conclusion
In TBI patients, generic and disease-specific aspects of HRQOL can now be assessed with a new cc valid measure of adequate psychometric quality, applicable across different populations and cultural conditions. HRQOL of persons after moderate or severe TBI is significantly impaired on all QOLIBRI-dimensions in comparison to persons after milder TBI. Furthermore, persons with less social participation, higher behaviour, psychological and neuropsychological problems experience strongly reduced HRQOL on all dimensions.

Keywords
Traumatic brain injury; outcome; health-related quality of life; disease-specific; neuropsychological problems; social participation; assessment.
Withdrawing of life support in patients with severe brain injury: ethical considerations

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The primary goals of intensive care units (ICU) are to help patients to survive acute threats to their lives. Originally conceived and operated as life-saving vehicles for acutely ill or injured patients, ICU often become repositories for patients who have no chance for survival. The patients with severe brain injury represent a considerable ethical challenge for the medical team due to uncertainties in prognosis, the younger age of many of these patients, and the acute nature of the disease. There is no option for discussion of end of life issues with these patients, the surrogates are often relied on to fill in the gaps and provide their, not always reliable, interpretation of how they feel the patient would want to have been treated.

This article will explore ethics in withdrawing life support in patients with severe head injury and not in which patients. It will address two fundamental aspects: 1) the philosophical and legal principal that underlie biomedical ethics and 2) conduct, the sociology of ethical behaviours. The fundamental philosophical and legal underpinnings that generally drive discussion in biomedical ethics are: 1) autonomy, 2) beneficence, 3) nonmaleficence, and 4) justice.

Patient autonomy and the right to self-determination are well-established ethical principles and legal rights in medicine. In the ICU, however, patients with severe head injury are incapable of making their own decision often causing ambiguity and uncertainty, which can lead to conflicts among healthcare providers and families. Beneficence has its roots in the Hippocratic doctrine of fostering the patient’s well-being. Nonmaleficence is the ethical precept that physicians are obligated not to injure patients. Justice is the fourth fundamental bioethical principle; physician must treat each and every patient with respect and fairness.

Of the many problems with which ICU doctors wrestle, medical futility ranks at or near the top. Although tempered by the knowledge that continuing futile care may be disrespectful to a patient, some would argue that the determination of futility is a purely objective clinical judgment. The idea of medical futility may seem to conflict with patient autonomy or the best interest standard in cases in which patients have lost capacity and surrogates are left to make decisions. There is general agreement that physicians never should unilaterally make decision about futility without explaining to the family. ICUs bear witness to overwhelming treatment successes, but they also house patients who progress to death.

When people are too injured, we confront the end of someone’s life. It is not always easy. We function with amazing technology at our disposal; sometimes that leads to ethical conflicts by prolonging the dying process. The end of life issues in the ICU do not need a technological solution; they need a social and philosophical one.

Aggressive or conservative treatment after traumatic brain injury: which is neuroprotective?

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Overview of published reports with mentioned "aggressive neurosurgery" was done. Among 904 publications, there were 67 reports, concerning traumatic brain injury. Their themes may be divided into 6 groups:

1. Decompressive craniectomy may be primary or secondary. The primary is recommended in the case of diffuse or unilateral brain swelling, and/or cerebral herniation in GCS ≤ 6, without ICP monitoring. Secondary must be done before the ICP value exceeds 40 torr for a sustained period and/or brain herniation appears. A significant correlation between the size of the craniectomy and the decrease in ICP is stressed. The younger age, earlier surgery and higher preoperative GCS score were related to better outcome. As an effective and adjuvant form of aggressive treatment brain lobectomies and uncoronarhippocampectomy with a tentorial edge incision were suggested.

2. Surgical treatment is not recommended for patients with gunshot or penetrating wounds with GCS score of 3 to 5 in the absence of haematoma causing mass effect. Criteria for operation: GCS 6-8; without hypotension or dilated pupils; GCS 9-13 with significant clot. Complete removal of foreign material in deep or ventricular localization is not mandatory.

3. Good intensive care including artificial ventilation, ICP and CPP control, gastroprotection, water-electrolyte balance, infection control, nutrition and physiotherapy is assumed as the basis for brain-oriented therapy. ICP monitoring is recommended for all comatose patients. Even short durations of CPP insults were strong predictors of death, but there is no consent, what is the critical degree of CPP. CPP or CPP oriented treatment depend on slope of the MAP/ICP regression line. External lumbar subarachnoid drainage may be useful addition sometimes.

4. Secondary insults

Ventricular-associated pneumonia, fever, early hyperglycaemia is associated with poor outcomes. Hyperventilation and mannitol should be used only in case of clinical deterioration and uncain herniation. Favourable outcome after CSF shunting was seen even in persistent coma patients with hydrocephalus who had signs of increased ICP.

Minimal invasive evacuation of intracranial haematoma, possibly under local anaesthesia, is indicated in advanced age. Intensive care must be less aggressive as there is more reserves for intracranial spatial compensation.

Conclusion

As its lack of evidence based decisions for aggressive TBI treatment, active but rational treatment may be suggested in order to protect injured brain.
Is it possible to predict favourable long term recovery in the early phase after mild traumatic brain injury

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Background
The incidence of traumatic brain injury (TBI) is among the highest of all neurological disorders. Approximately 15% of all Mild Traumatic Brain Injury (MTBI) patients suffer persistent symptoms and functional impairments for months to years after injury. Given the high incidence of MTBI, and the good recovery in most patients, routine follow-up may not be feasible or needed. Rules for the early identification of patients who are likely to recover well are lacking. We developed and internally validated two prediction rules for identifying patients who have a high chance for good six-month recovery.

Methods
A prospective cohort study was conducted among Emergency Department-admitted MTBI patients. MTBI severity indices and a range of pre-, peri- and early post injury variables were considered as potential predictor variables including emotional and physical functioning. Logistic regression modeling was used to predict the absence of postconcussional symptoms (PCS) and full return to work (RTW).

Results
After six months 64% of 201 participating patients reported full recovery. Based on our prediction rules, patients without pre-morbid physical problems, low levels of PCS and post traumatic stress early after injury, had 90% chance to remain free of PCS. Patients with over 11 years of education, without nausea or vomiting on admission, with no additional extracranial injuries, and only low levels of pain early after injury, had 90% chance on full RTW. The discriminative ability of the prediction model was satisfactory with an area under the curve > 0.70 after correction for optimism.

Conclusions
Two relatively simple prognostic models enable us to identify in the early recovery period MTBI patients who are likely to have good six-month outcome. A score chart was derived from the models to facilitate application of these models in clinical practice.

Reference
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Most important is the personal view on and the personal contact with the patient for all team members as the patient himself will tell us his needs and possibilities for restoration of higher cortical functioning over time. The neurosurgeons personal interest and expertise in multidisciplinary neurotraumatology turned out be the key issue to perform consequently modern neurorehabilitation in a holistic, multidisciplinary way, when neuropsychology and the next of kin's personal care with love play the key role to reconstruct the victims life within his social context.

As Michael H. Thaut, AMN member and President of International Society of Neuromusicology, emphasised, music has been given the age-old roles of emotional expression so that in all societies throughout human history music has been used to express emotions, ideas, and feelings. The therapeutic value of music in neurorehabilitation is derived from various emotional and socials roles it plays in a person's life and society's culture. This can be observed in our film.

BARBARA A. WILSON/UK

Rehabilitation For People With Deficits in Executive Functioning

MRC Cognition and Brain Sciences Unit, Cambridge and The Oliver Zangwill Centre, Ely, USA

This talk focuses on strategies for reducing the everyday problems arising from the Dysexecutive Syndrome (DES). Following a brief description of the DES and some models to help us understand the problems and design appropriate interventions, we consider how to help people overcome problems faced in everyday life. In particular we look at possible ways to a) restore lost functioning b) compensate for the problems using internal strategies c) compensate for the problems using external strategies and d) use an environmental control strategy to reduce the difficulties. We also consider ways to help patients with the DES improve their planning, behaviour, improve their ability to implement their plans and improve their ability to monitor their behaviour.

Cognitive Rehabilitation in the Twenty First Century

Following a very brief history of cognitive rehabilitation we consider the current practice of rehabilitation at the beginning of the twenty first century including major changes over the past years. There are six changes that I feel have been particularly influential: 1) Rehabilitation is now seen as a partnership between patients, families and health care staff 2) Goal setting is well established as a means of planning rehabilitation programmes 3) There is general recognition that cognition, emotion, social functioning and behaviour are interlinked and should be all be addressed in the rehabilitation process 4) Rehabilitation should begin in the first days after brain injury when people may still be in a state of reduced consciousness 5) There has been an increase in the use of technology to help people compensate for their difficulties and 6) There is a greater acknowledgment that rehabilitation requires a broad theoretical base; no one theory, model or framework is sufficient to address all the problems faced by people with neuropsychological deficits. This talk considers these points in turn and presents supporting data together with illustrative clinical examples. The talk concludes with a consideration of how neuropsychological rehabilitation might progress in the rest of this century.
Modular Motor Therapies in Neurological Disorders

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Within the last couple of years there has been a dramatic change in the paradigms for treatment of motor disorders in neurological conditions. Going away from purely intuitively conceived “hands-on” treatments more coaching oriented “hands-off” approaches following scientifically sound rules derived from motor learning and plasticity have been introduced. Furthermore a lot of these treatment techniques have been proven to be evidence based (EBM).

In our department in addition of using almost entirely EBM-based techniques we did one step forward: According to individual patients’ patterns of impairment an algorithmic modular approach to selection of proper treatment was established. This includes highly intensive group treatments (e.g. several hours a day) with a cycle training entailing a variety of training approaches.

Such a modular approach can help in finding a time economic and very effective way of treatment.

Examples for individual modules will be shown.

Barbara A. Wilson/UK

Neuropsychological Assessment and Management of People in States of Reduced Consciousness

MRC Cognition and Brain Sciences Unit, Cambridge and The Oliver Zangwill Centre, Ely, USA

This workshop is concerned with patients who are in coma, the vegetative state or the minimally conscious state. Several studies are described which address the issue of assessment and management of these patients. These include: (a) the development of an assessment tool (Wessex Head Injury matrix); (b) a comparison of the WHIM with the Glasgow Coma Scale, demonstrating that the WHIM is more sensitive than the GCS for measuring the behavioural repertoire of people in states of reduced consciousness; (c) using the WHIM to assess the effects of posture on arousal, showing that some 75% of patients show more behaviours when assessed while they are in a standing frame than when supine; (d) long term outcome of one of the first vegetative patient to be scanned with PET in 1997; (e) a description of four levels of tests used with low awareness patients in PET or MRI studies to determine cognitive processing in people with no apparent responsiveness; and (f) a fMRI study with a vegetative patient to show that, although non-responsive behaviourally, she was able to show through brain activity that she could understand speech and carry out requests to imagine playing tennis and walking through her house. The talk concludes with a discussion of the reasons why neuropsychologists should be involved in the management of patients in states of reduced consciousness.