FOUNDATION OF THE SOCIETY FOR THE STUDY OF NEUROPROTECTION AND NEUROPLASTICITY

International School of Neurology

UMF IULIU HAȚIEGANU UNIVERSITY OF MEDICINE AND PHARMACY CLUJ-NAPOCA

RoNEURO Institute for Neurological Research and Diagnostic

FUNDATIA JURNALULUI Journal of Medicine and Life

Seminars

THE CNS AND THE PELVIC FLOOR

in conjuction with "Iuliu Hatieganu" Univerisity of Medicine and Pharmacy Days 2018

DEPARTMENT OF NEUROSCIENCES
"IULIU HATIEGANU" UNIVERSITY OF MEDICINE AND PHARMACY
CLUJ-NAPOCA | ROMANIA

3 DECEMBER, 2018

MULTIMEDIA AUDITORIUM, „IULIU HAȚIEGANU" UMF CLUJ-NAPOCA
VICTOR BABEȘ STREET, NO. 8 | CLUJ-NAPOCA | ROMANIA

Welcome Address

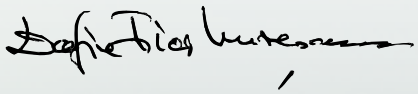
It is a pleasure to welcome you to the 55th edition Seminars - December 3, 2018. The seminar is hosted by the Department of Neurosciences, Faculty of Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca. This seminar aims to establish itself as a highly useful framework that will enable local specialists to benefit from the expertise of our invited speakers who are part of associated international faculty of our Department of Neurosciences Cluj-Napoca, Romania and RoNeuro Science network. Our scope is to flourish over years and set up an educational vector aiming to meet our junior and senior specialists' needs.

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

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

With consideration,

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



Program Coordinator

Dafin F. Mureşanu

Co-Chair EAN Scientific Panel Neurorehabilitation

Chairman of EAN Communication and Liaison Committee

President of the European Federation of NeuroRehabilitation Societies (EFNR)

Past President of the Romanian Society of Neurology

Professor of Neurology, Chairman Department of Neurosciences "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj-Napoca, Romania

Organizers

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SPEAKERS

SPEAKERS

Max Hilz

/Germany

Studied medicine at the Universities of Cologne and Erlangen-Nuremberg in Germany. He first trained in Anesthesiology and Intensive Care Medicine and in Ear-Nose-and–Throat diseases, and then started his residency in Neurology and Psychiatry at the University of Erlangen-Nuremberg.

He specialized in Neurology, Clinical Neurophysiology, Neurological Intensive Care Medicine and Disorders of the Autonomic Nervous System (ANS). He holds German board certificates in Neurology and Psychiatry and in Psychotherapy. He also passed the board examination of the American Board of Electrodiagnostic Medicine.

He is licensed to practice medicine in Germany, the United Kingdom, and in the State of New York, USA.

From 1992 until 2013, he was Attending and Full Professor of Neurology, Medicine and Psychiatry at New York University, New York, NY. Until 2007, he also served as the Associate Director of the Dysautonomia Evaluation and Treatment Center at New York University. In 2006, he was offered an Endowed Chair and tenured Professorship at New York University.

From September 2016 to August 2017, he was the Chair in Autonomic Neurology, and Director of the Clinical Department of Autonomic Neurology at the University College London, Institute of Neurology, Queen Square, London, UK.

Currently, he is Professor of Neurology at the University of Erlangen-Nuremberg in Erlangen, Germany. Since June 2015, he is also Adjunct Professor of Neurology at Icahn School of Medicine at Mount Sinai, New York, NY, USA.

Professor Hilz has trained many students and fellows from all over the world, including fellows of the Chinese Scholarship Council. He is a member of 17 national and international scientific societies and is on the board of several autonomic nervous system societies. He currently co-chairs the Autonomic Nervous System Subspecialty Panel of the European Academy of Neurology, EAN. He also is Past-President of the German Autonomic Society, Past-President of the European Federation of Autonomic Societies, and Past-Chair of the Autonomic Section of the American Academy of Neurology. He is ad hoc reviewer for more than 25 international scientific journals, a member of the editorial board of Clinical Autonomic Research, and Associate Clinical Editor of Autonomic Neuroscience: Basic and Clinical.

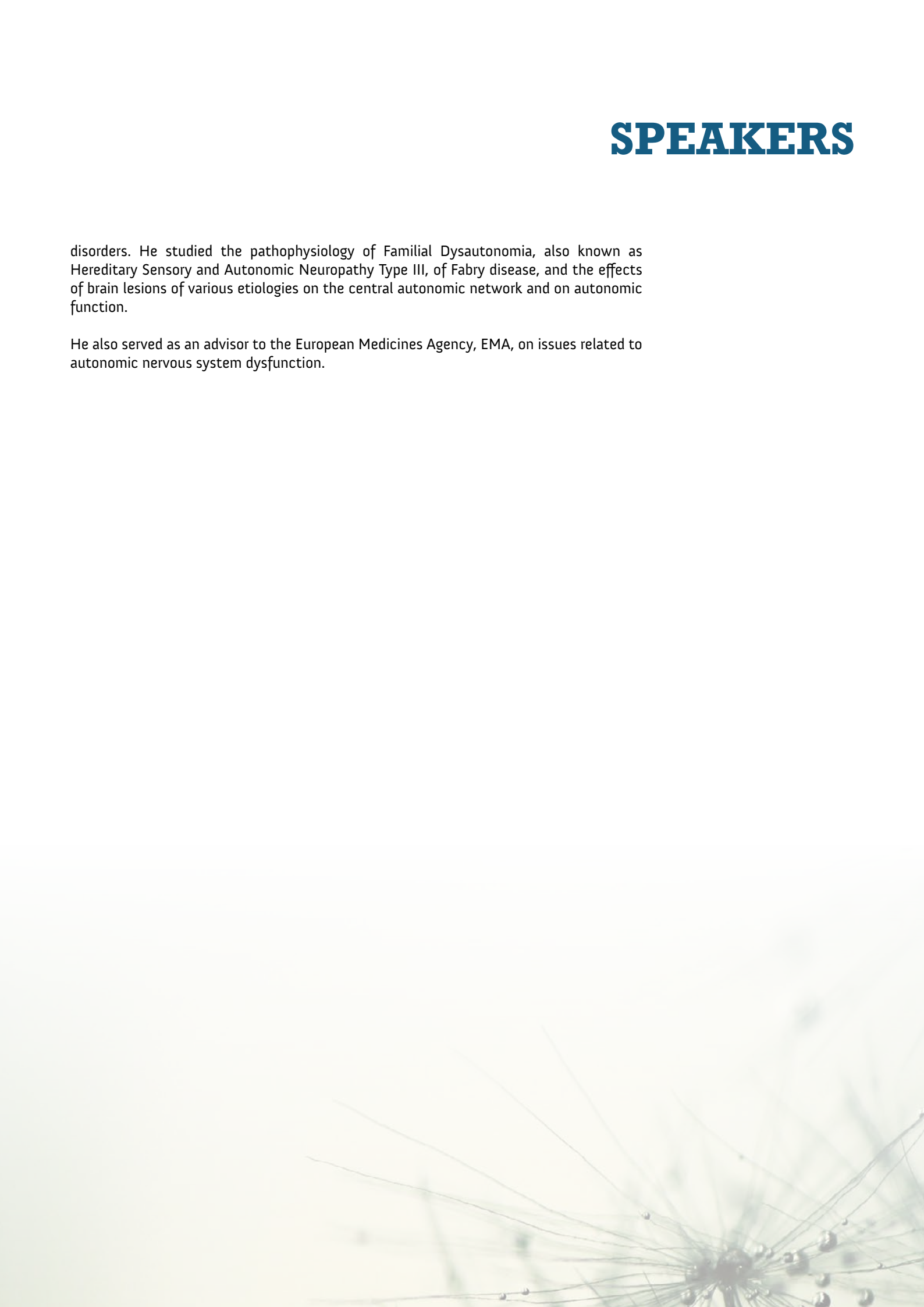
He co-authored the guidelines of the German Neurological Society on syncope, the guidelines on erectile dysfunction and the guidelines of the German Diabetes Society on diabetic neuropathy. He has published more than 300 original and review articles in peer-reviewed journals and chapters in textbooks and presented his work at several hundred scientific conferences.

Prof. Hilz is experienced in the examination of small nerve fiber diseases and disorders of the peripheral and central autonomic nervous system, including hereditary sensory and autonomic neuropathies, diabetic neuropathies, and Fabry disease, and central autonomic

SPEAKERS

disorders. He studied the pathophysiology of Familial Dysautonomia, also known as Hereditary Sensory and Autonomic Neuropathy Type III, of Fabry disease, and the effects of brain lesions of various etiologies on the central autonomic network and on autonomic function.

He also served as an advisor to the European Medicines Agency, EMA, on issues related to autonomic nervous system dysfunction.



SPEAKERS

Antonio Federico
/Italy

Prof. Antonio Federico, born in Polla (Sa) on the 25.08.48, from 1990 is full professor of Neurology at the University of Siena , Director of the Unit Clinical Neurology and Neurometabolic Disease.

He was Director of the Department of Neurological, Neurosurgical and Behavioural Sciences, University of Siena (2002-2008).

He received the degree in Medicine and specialization in Nervous and Mental Diseases, summa cum laude, at the University of Naples in 1972 and 1975 respectively. He received the Lepetit Award for the best degree dissertation in 1972.

His biological training was in the Institute of Biochemistry as student and after in Physiology of the University of Naples, and in the Centre de Neurochimie of CNRS, in Strasbourg, directed by prof. Mandel where he worked in the years 1973-75. He also collaborated with many international research groups, in different countries where he spent in the past years some times: in Montreal (Prof. Andermann, Karpati and Shoudgbridge), in London (dr A. Harding and prof. Morgan-Hughes), in Toronto (dr.Robinson), in Bonn (prof. von Bergmann) , in Paris (dr.Baumann), in Baltimore (proff. Moser and Naidu), in Oxford (prof. Matthews), etc. His clinical formation was made at the Medical School of the University of Naples, in the Dept, Neurology, and after in Siena, where he moved on 1980 with his mentor, prof. G.C. Guazzi. Associated professor in Neurology in 1982, since 1990 he is full professor of Neurology, Medical School, University of Siena. In 2013, he received honoris causa degree in Medicine at University Carol Davila, Bucharest, Rumania.

In the years 1990-96 he was Secretary of the Italian Society of Neurology. In the years 2006-08 was President of the Italian Society of Neurology.

He coordinated the Study Group on Clinical Neurogenetics of the Italian Society of Neurology.

He has been referee for projects evaluation in the area of Orphan drugs and Orphan diseases for Biomed Projects from EU, for MURST, CNR and Istituto Superiore di Sanità, and other national and international funding agencies, etc.

He is member of the Second Opinion Group of the American Leucodistrophy Association. Associated editor of Neurological Sciences , Springer-Verlag Editor from 2000. From 2012, he is Editor-in Chief.

He is author of more than 500 article quoted by Pubmed. He is author of a chapter on Cerebrotendinous Xanthomatosis, Vinken and Bruyn Edts, Handbook of Clincal Neurology, vol 49, Neurodystrophies and Neurolipidoses. On the book McKusick's Mendelian Inheritance in Man,. Ed.1992, Catalog of Autosomal Dominant and Recessive Phenotypes he is cited for 3 different diseases. He was editor of the book Late Onset Neurometabolic diseases (A.Federico, K. Suzuki and N.Baumann Edts), Karger 1991, and many other books from Italian and international Publishing Companies. Recently he published (2015) Manuale di Neurologia Pratica and Neurologia and Assistenza infermieristica, for students.

His main field of interest is related to neurometabolic, neurodegenerative and rare diseases, investigated from a genetic, metabolic, neuroimaging and clinical point of vue.

Summary of the academic involvements: - Director of the Section Neurological Sciences, Dept Neurological , Neurosurgical and Behavioural Sciences (2000-2012) - Director of

SPEAKERS

the Research Center for the Diagnosis, Therapy and Prevention of the Neurohandicap and Rare Neurological Diseases, until the 2010 - Vice-Dine of the Medical School, University of Siena (2003-2006) - Director of the Postgraduate School of Neurology, University of Siena, from 2006 up to 2014. - Director of the PhD School in Cognitive and Neurological Sciences, University of Siena (from 2000 up to date) - Coordinator of the Section of the Univ. Siena of the PhD Program Neurosciences, Univ. Florence. - Research delegate for the Dept Medicine, Surgery and Neurosciences (2013-2018) - Vice-Rector of the University of Siena, from 1st april 2016 to november 2017.

Medical Involvements – Until November 2018 (date of retirement) Director of the OU Clinical Neurology and Neurometabolic Diseases, University Hospital of Siena Medical School. –He is still Director of the Regional Reference Center for Rare Diseases - Regional Coordinator of the Network for Rare Neurological Diseases, Tuscany Region. - Member of several Ministry of Health and Regional Committees National and International Commitments - President of the Italian Society of Neurology (2009-11) - Italian delegate to the World Federation of Neurology - Italian Delegate to the European Union of Medical Specialists (Section Neurology) - Italian Delegate and Chairman of the Neuromediterraneum Forum and President - Consultive Member of the European Brain Council - Editor – in – Chief of Neurological Sciences, Springer Verlag Editor. He is in the Editorial Board of many national and international journals. - Member of the American Panel United Leucodystrophies. - Member of the Scientific Committee of AISM (Associazione Italiana Sclerosi Multipla) - Chairman of the Scientific Committee of the European Academy of Neurology (2014-2018) - Chairman of Neuromediterraneum Forum - Co-Chairman of Research group of WFN Migration Neurology

Member of the Scientific Societies: - Società Italiana di Neurologia (Past Secretary, President, Past-President and Member of the Committee) - Society for the Inborn Errors of Metabolism - Italian Association of Neuropathology - SINDEM (Italian Association of Dementias) - Italian Association for Parkinson's disease - Italian Association of Neurogeriatrics (Member of the Scientific Committee) - Italian Stroke Forum - European Academy of Neurology (Member of the Board and Chairman of the Scientific Committee) - American Academy of Neurology - World Federation of Neurology (Co-Chair Section of Migration Neurology) - Neuromediterraneum Forum (President).

SPEAKERS

David Vodušek

/Slovenia

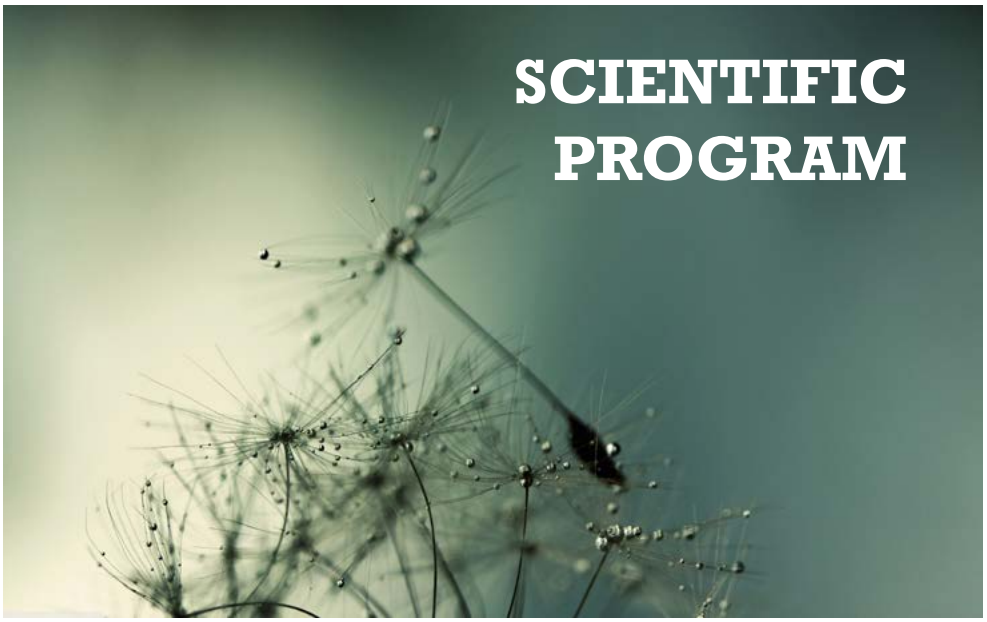
Dr. David B. Vodušek is Emeritus Professor of Neurology at the University of Ljubljana, Slovenia, Faculty of Medicine. As of March 1, 2017, he has retired from his position as Medical Director, Division of Neurology, University Medical Center Ljubljana, Slovenia, which he has held since 1996. Professor Vodusek continues as consultant neurologist and clinical neurophysiologist at the Institute of Clinical Neurophysiology, Division of Neurology, University Medical center Ljubljana. In 2018, he became Fellow of the European Academy of Neurology.

Dr. Vodušek was born and raised in Slovenia. He received his medical degree from the University of Ljubljana in 1976, where he subsequently worked as a lecturer in Neurology. He completed his Ph.D. at the University of Ljubljana, Ljubljana, in 1989, having spent 1month in the Department for Clinical Neurophysiology, Uppsalla, Sweden, and 6 months at the Institute of Neurology, Queen Square, London, UK. In 1982 he obtained the Slovenian Specialist Board certificatition in Neurology. He was appointed as full Professor of Neurology at the University of Ljubljana, Slovenia, in 1997. He has been visiting assistant professor at Baylor College, Houston, Texas, USA (1982-83) and New York University Medical center, NY, USA (1991; 1993). Dr. Vodušek worked as a Consultant in Ibn Sina Hospital, Kuwait (1986-1987). From 1991 to 1996 Dr. Vodušek was Head of the Institute of Clinical Neurophysiology in Ljubljana. 2004 – 2007 he has been Chair of Neurology, Medical Faculty, University of Ljubljana, Slovenia, and has been active as full professor of neurology till 20217. Between 1996 and 2017 he was Medical Director of the Division of Neurology, University Medical Center Ljubljana.

Dr. Vodušek is a member of the Slovene and German Neurological Association, British Association of Clinical Neurophysiology, and many international societies including the the European Academy of Neurology, the European Federation of Autonomic Societies, and the International Continence Society. Dr. Vodušek has served as member of the Board of the European Academy of Neurology (as Chair, Communication Committee, 2014 - 2018), and continues as Chair of the Sub-Committee for European Affairs. He serves on the Editorial Board of Neurourology and Urodynamics.

During his career, Dr. Vodušek has authored more than 100 articles in peer-reviewed international journals and Chapters in international Editions, and has been invited speaker on topics related to neurology, clinical neurophysiology and uroneurology in several international congresses and in university departments across the globe. Recently he co-edited the 130th volume of the Handbook of Clinical Neurology series (Neurology of Sexual and Bladder Disorders).

Dr. Vodušek's research interests include uro-neurology, clinical neurophysiology, peripheral neurology, and cognitive neurology.


SCIENTIFIC
PROGRAM

Scientific program

3 DECEMBER, 2018

13:50 – 14:00	Welcome address
14:00 – 14:45	Male and female sexual dysfunction in stroke and multiple sclerosis; diagnosis and treatment (I) Max Hilz (Germany)
14:45 – 15:30	Male and female sexual dysfunction in stroke and multiple sclerosis; diagnosis and treatment (II) Max Hilz (Germany)
15:30 – 16:15	Tarlov cysts: a rare and underestimated cause of low back pain and urogenital symptoms. The Siena experience. Antonio Federico (Italy)
16:15 – 16:45	Coffee Break
16:45 – 17:30	Management of patients with neurogenic dysfunction of the lower urinary tract David Vodušek (Slovenia)
17:30 – 18:15	Neurophysiological Tests in Uroneurology David Vodušek (Slovenia)


ABSTRACTS

Abstracts

MALE AND FEMALE SEXUAL DYSFUNCTION IN STROKE AND MULTIPLE SCLEROSIS; DIAGNOSIS AND TREATMENT

MAX HILZ
/GERMANY

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Icahn School of Medicine at Mount Sinai, New York, NY, USA

In the USA, 43% of women and 31% of men report sexual dysfunction. Assessment of sexual dysfunction should be patient- specific, including a detailed history, physical, genital and neurologic examination, neurophysiologic testing, such as genital quantitative sensory testing, endocrine and psychological work-ups. Treatment of female hypoactive sexual desire disorder is mainly non-pharmacologic. However, Flibanserin, a 5-HT1a receptor agonist, 5-HT2A receptor antagonist and partial Dopamin D4-receptor agonist, was initially developed as an antidepressant but was finally approved by the US American Food and Drug Administration as a treatment of hypoactive sexual dysfunction in premenopausal women who are distressed by low sexual desire. Usually, therapeutic attempts should be limited to eight weeks if there is no improvement. For sexual arousal disorder, various treatment options have been tested, for example transdermal testosterone substitution which is not approved in the USA. However, there is controversy whether androgen therapy is beneficial for women who suffer from sexual dysfunction and have low testosterone levels. Post-menopausal women who have vulvovaginal atrophy and experience pain during intercourse might benefit from the selective estrogen receptor modulator Ospemifene.

Male erectile dysfunction (ED) probably affects 20 to 30 million men in the USA. Diagnosis may include nocturnal tumescence testing or Doppler sonographic measurements of penile perfusion. PDE5 inhibitors are one of the pharmacologic treatment options in ED patients. However, in patients with reduced nitric oxide production, such as diabetics, PDE5 inhibitors may fail. Patients with high cardiovascular risk should defer sexual activity. PDE5 inhibitors are contraindicated in these patients and in patients on nitrates.

Premature ejaculation (PE) is the most common male sexual dysfunction affecting up to 21% of men between 18 and 59 years of age in the USA. Patients with PE may benefit from behavioral, cognitive therapy, “squeeze techniques”, topical anesthetics, and serotonin reuptake inhibitors (SSRIs). However, SSRI treatment should be used with caution due to the risk of a life-threatening serotonin syndrome which may manifest with nausea, headache, dizziness, sweating, delirium, coma, hyperthermia , muscle rigidity, neuromuscular dysfunction, mental status changes, and autonomic hyperactivity

Sexual function may deteriorate in many neurological diseases. After stroke, the prevalence of erectile dysfunction increases significantly. Erectile dysfunction may be quite common after middle cerebral artery infarction but also occurs with stroke in other vascular territories as disruption of the central network assuring erection seems to increase severity of preexisting erectile dysfunction and moreover augments prevalence of erectile dysfunction. In addition to structural impairment, psychological burden after stroke and effects of medication may contribute to post-stroke erectile dysfunction (Koehn et.al. 2015). Voxel-based lesion analysis shows associations between stroke-related erectile dysfunction and lesion sites in the right occipito-parietal cortex and

Abstracts

thalamus, as well as in the left insula and adjacent temporo-parietal areas, while deterioration of pre-existing erectile dysfunction is associated with lesions in the right occipito-parietal and thalamic areas integrating visual and somatosensory information, as well as lesions in the left insular and adjacent parieto-temporal areas contributing to generating and mapping visceral arousal states.(Winder et al., Brain 2017).

In men suffering from multiple sclerosis (MS), voxel-wise analysis showed that MS lesions primarily in the bilateral, and predominantly left juxtacortical insular region which is activated during sexual arousal, contribute to deterioration of erectile function (Winder et al., 2018). In women with MS, we also used voxel-based lesion analysis and showed associations between deterioration of orgasmic function and the MS lesion load in the left temporal periventricular white matter and right middle-inferior occipital area, while MS-lesion load in the frontotemporal cortex or midbrain seem to disinhibit orgasmic function (Winder et al. 2015). Moreover, our studies show that compromised female sexual arousal is associated with MS lesions in the occipital region that integrates visual information and modulates attention towards visual input. Finally, impaired lubrication is associated with MS lesions in the left insular region which contributes to mapping and generating visceral arousal states (Winder et al., 2016). Moreover, our analyses suggest that women with MS more frequently have sexual dysfunction than depression, and that sexual dysfunction afflicted 67.9% of the depressed MS patients in our study but also was more common in non-depressed MS patients than in healthy women which suggests that sexual dysfunction may occur in women suffering from MS independently from depression while increased depressiveness seems linked to coexistent sexual dysfunction in these women with MS (Hösl et al., 2018).

In summary, neurological diseases can trigger and deteriorate male as well as female sexual function. Neurologists should take a careful history and assess sexual function in case of possible involvement in the underlying neurological disease. This will enable patients to benefit from increasingly available therapeutic options improving sexual dysfunction.

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Abstracts

TARLOV CYSTS: A RARE AND UNDERESTIMATED CAUSE OF LOW BACK PAIN AND UROGENITAL SYMPTOMS. THE SIENA EXPERIENCE.

ANTONIO FEDERICO
/ITALY

Dept Medicine, Surgery and Neurosciences, Medical School, University of Siena

Tarlov cyst syndrome is a rare, often asymptomatic disorder, characterised by isolated or multiple nerve-root cysts, usually occurring in the sacral spine, near the dorsal root ganglion, between the perineurium and endoneurium. The cysts may cause lower back pain, sacral radiculopathy, dyspareunia and urinary incontinence. There is little data in the literature on the relationship between Tarlov cysts and symptoms. Here, we report further details on the clinical impact of Tarlov cysts and investigate their pathogenesis and role as a cause of lumbosacral symptoms. We examined 157 patients with MRI evidence of symptomatic Tarlov cysts. Patients underwent complete neurological examination and were scored by the Hamilton Depression Rating Scale and the Visual Analogue Scale. Complete lower limb electromyography was performed in 32 patients. Clinical picture was correlated with size and number of cysts detected by MRI. Family history was recorded for signs of genetic inheritance. Almost all patients suffered perineal or lower back pain; 34 complained of sphincter and 46 of sexual disorders. Hamilton scores were abnormal, and family history was positive in a few cases. The scanty literature on Tarlov cysts mainly regards therapy by a neurosurgical approach. Our results provide new data on clinical impact and possible pathogenetic mechanisms.

Abstracts

MANAGEMENT OF PATIENTS WITH NEUROGENIC DYSFUNCTION OF THE LOWER URINARY TRACT

DAVID VODUŠEK
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The bladder neurocontrol system extends from frontal lobes to conus of the spinal cord, and is thus a likely victim of lesions. Suprapontine lesions most often result in bladder hyperactivity; social graces may be lost. Co-ordinated bladder emptying is preserved, however, if the pontine mechanisms are intact. Lesions between pons and the sacral segments lead to bladder hyperactivity and loss of bladder/sphincter co-ordination; this may be hazardous to the upper urinary tract. Sacral and subsacral lesions lead to bladder hypoactivity and denervation of pelvic floor / perineal muscles. (The latter may be diagnosed by neurophysiological tests). Functionally, loss of lower urinary tract (LUT) neurocontrol results in problems of urine storage, problems of evacuation, and sensory dysfunction (this can be clarified by urodynamics).

In most patients with multiple sclerosis, and in urologically otherwise unremarkable patients with stroke and parkinsonism, management may be instituted by the neurologist after measurement of the post-void residual urine by ultrasound. Significant residual urine (in excess of 100 ml) is an indicator of the need of clean intermittent catheterisation. Frequency, urgency, urge incontinence and nicturia may be treated by anticholinergics. Urological consultation is needed if non-neurogenic pathology is suspected, in patients with complex problems, and in those who do not respond to simple therapeutic measures.

Abstract

NEUROPHYSIOLOGICAL TESTS IN URONEUROLOGY

DAVID VODUŠEK
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Division of Neurology,
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Neurophysiological tests are used in clinical practice for assessment of individual patients with uro-ano-genital disorders or pelvic pain to diagnose nervous system lesions, and to define dysfunction.

Concentric needle EMG and conduction studies (particularly bulbocavernosus reflex) are useful in diagnosing lesions within the lower (S2-S4) sacral reflex arcs, and are more sensitive (whereas somatosensory evoked potentials - SEP are less sensitive) than clinical examination to detect abnormality. Sympathetic skin response recording is still mostly a research tool.

Kinesiological sphincter EMG recordings demonstrate detrusor / sphincter, and bowel / sphincter discoordination in patients with CNS lesions.

Application of neurophysiological testing in uroneurological research has revealed myogenic urethral sphincter hyperactivity as cause for urinary retention in women, thus defining a new clinical syndrome (the Fowler syndrome). Neurophysiological methods have furthermore demonstrated the (partly) neuropathic cause of “genuine” stress urinary and anal incontinence.

In conclusion, neurophysiological tests remain interesting for clinical research in patients with uroanogenital dysfunction. EMG with sacral reflex recording is diagnostic in patients with suspected conus, cauda equina, sacral root, pudendal and levator ani nerve involvement, and defines lower motor neuron and reflex arc lesions due to trauma, compression, inflammation and dysraphism.

Notes

Notes

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