# PROGRAM

## Oral 1

**September 17, 2015**

**8:00 - 9:10**

### Monitoring / diagnosis of Vasospasm / DCI

**Chairpersons:** Yoshiaki Shiokawa  
Department of Neurosurgery, Kyorin University  
Gang Chen  
The First Affiliated Hospital of Soochow University

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| 01-1  | Decreased flow velocity with transcranial Doppler correlates with delayed cerebral ischemia due to peripheral vasospasm of the middle cerebral artery | Hirokazu Sadahiro  
Ohtemati Hospital / Yamaguchi University School of Medicine |
| 01-2  | Early diagnosis and therapeutic management of cerebral ischemia in cerebral vasospasm by oxygen-pulse near infrared optical topography | Yuichi Tanaka  
Department of Neurosurgery, Jichi Medical University Saitama Medical Center |
| 01-3  | Cerebral blood flow monitoring using minimal-invasive near infrared spectroscopy: An experimental validation study | Martin Seule  
Department of Neurosurgery, University Hospital Heidelberg, Germany / Department of Neurosurgery, Kantonsspital St. Gallen, Switzerland |
| 01-4  | SERIAL SPECT DURING THE PERIOD OF THE VASOSPASM AFTER SUBARACHNOID HEMORRHAGE | Hiroaki Shimizu  
Akita University |
| 01-5  | Predicting prognosis by CT perfusion on arrival in aSAH patients with WFNS Grade V | Atsushi Sasahara  
Department of Neurosurgery, Tokyo Women's Medical University Medical Center East |
| 01-6  | Call for Uniform Neuropsychological Assessment After Aneurysmal Subarachnoid Haemorrhage: Swiss Recommendations | Martin N. Stienen  
Department of Neurosurgery, University Hospital Geneva, Geneva, Switzerland |

## Symposium 1

**9:10 - 10:25**

### Methods and results of Vasospasm / DCI-treatment in your hospital, past & present

**Chairpersons:** Nobuhito Saito  
Department of Neurosurgery, Graduate School of Medicine, The University of Tokyo  
Michiyasu Suzuki  
Department of Neurosurgery, Yamaguchi University School of Medicine

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| S1-1  | Management and clinical outcome of aneurysmal subarachnoid hemorrhage patients with surgery in Saitama Medical University International Medical Center | Yuichiro Kikkawa  
Saitama Medical University International Medical Center |
| S1-2  | Multidisciplinary therapy of cerebral vasospasm after aneurysmal subarachnoid hemorrhage in our institution | Atsushi Saito  
Department of Neurosurgery, Aomori Prefectural Central Hospital |
| S1-3  | Clinical management protocol influences the incidence of symptomatic vasospasm | Norihito Shimamura  
Department of Neurosurgery, Hirosaki University Graduate School of Medicine |
13th International Conference on Neurovascular Events after Subarachnoid Hemorrhage

**$1-4$** Preventive effect of continuous cisternal irrigation with Mg2+ solution against angiographical vasospasm associated with subarachnoid hemorrhage  
Takuii Yamamoto Juntendo University Shizuoka Hospital

**$1-5$** Endovascular therapy of symptomatic vasospasm after aneurysmal subarachnoid hemorrhage: three year experience  
Dae-Won Kim Department of Neurosurgery, Wonkwang University Hospital

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### Oral 2  
10:25 - 11:55

**Risk factors / prediction of Vasospasm / DCI**

**Chairpersons:** Tatsuya Sasaki Aomori Prefectural Central Hospital  
Seung Chyul Hong Department of Neurosurgery Samsung Medical Center, Sungkyunkwan University School of Medicine

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02-1 Risk factor of delayed cerebral ischemia by multivariate analysis  
Fusao Ikawa Department of Neurosurgery, Shimane Prefectural Central Hospital

02-2 Disturbance of CT perfusion on arrival is associated with WFNS grade and outcome but not development of DCI in patients with aneurysmal SAH  
Yuichi Takahashi Tokyo Women's Medical University Medical Center East

02-3 Statistical analysis of factors affecting outcome of patients with aneurysmal subarachnoid hemorrhage  
Takumi Nakamura Saitama Medical Center, Saitama Medical University

02-4 Risk factors of symptomatic cerebral vasospasm secondary to subarachnoid hemorrhage  
Hirokazu Nakatogawa Seirei Hamamatsu General Hospital

02-5 DELAYED CEREBRAL ISCHEMIA AFTER ANEURYSMAL SUBARACHNOID HEMORRHAGE: CURRENT STATUS IN SAMSUNG MEDICAL CENTER  
Je Young Yeon Samsung Medical Center

02-6 MicroRNAs as Potential Biomarkers in Subarachnoid Hemorrhage  
Marian Christoph Neidert University Hospital Zurich, Department of Neurosurgery and Neuro-Intensive Care Unit, Zurich, Switzerland

02-7 Higher Plasma MicroRNA (miR)-26a is Associated with Good 6-month Outcome Following Subarachnoid Hemorrhage  
Sherry H Chou University of Pittsburgh School of Medicine / Brigham and Women's Hospital, Harvard Medical School / Massachusetts General Hospital, Harvard Medical School

02-8 Neurodegenerative CSF-markers predict neurological outcome after aneurysmal subarachnoid hemorrhage  
Martin N. Stienen Department of Neurosurgery, Cantonal Hospital St.Gallen, St.Gallen, Switzerland / Department of Neurosurgery, Geneva University Hospital, Geneva, Switzerland
Luncheon Seminar 1 12:05 - 13:05

Chairperson: Takashi Watanabe Department of Neurosurgery, Tottori University

LS1  Reviews of the treatment for the cerebral vasospasm following aneurysmal subarachnoid hemorrhage
Hiroyuki Kinouchi Department of Neurosurgery, University of Yamanashi School of Medicine, Chuou, Yamanashi, Japan

Sponsored by DAIICHI SANKYO COMPANY, LIMITED

Poster 1 13:15 - 13:55

Clinical Study - Treatment 1

Chairperson: Yoko Kato Department of Neurosurgery, Fujita Health University Banbuntane Houtokukai Hospital

P1-1  Cerebral vasospasm following aneurysmal subarachnoid hemorrhage: a single center study comparing clips and coils
Shunya Tanaka Department of Neurosurgery, Stroke and Neurological Institute, Shin-Koga Hospital

P1-2  Rapid radical clot removal can prevent vasospasm and improve functional outcome in patients with subarachnoid hemorrhage
Satoru Takeuchi Department of Neurosurgery, National Defense Medical College, Tokorozawa, Saitama, Japan

P1-3  Symptomatic vasospasms with recurrent deo in sah successfully treated with intravenous and intraventricular nitric oxide donors
Angelika Ehler Neurosurgery, AK St. Georg, Germany

P1-4  The role of Simvastatin in Aneurysmal Subarachnoid Hemorrhage: A Meta-analysis of Randomized Controlled Trials
Sheng Chen Second Affiliated Hospital, School of Medicine, Zhejiang University

P1-5  Results of hyperdynamic therapy with a clipping-first policy
Shinya Kobayashi Department of Surgical Neurology, Research Institute for Brain and Blood Vessels-AKITA

P1-6  CLINICAL FEATURES OF SYMPTOMATIC CEREBRAL VASOSPASM AFTER SUBARACHNOID HEMORRHAGE FOR 11 YEARS IN OUR HOSPITAL
Masaaki Mikamoto Department of Neurosurgery, Nakamura Memorial Hospital

Poster 2 13:15 - 13:45

Diagnosis

Chairperson: Akira Satoh Kurosawa Hospital / Tokyo Kyosai Hospital

P2-1  Prediction, early detection, diagnostic confirmation and treatment allocation for DCI after SAH
Gregory Kapinos Hofstra North Shore LIJ School of Medicine

P2-2  Temporal and Spatial Changes in Cerebral Blood Flow during the Management against Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage
Kenichi Sato Department of Neurosurgery, Tohoku University Graduate School of Medicine, Sendai, Japan / Department of Neuroendovascular therapy, Kohnan Hospital, Sendai, Japan

P2-3  The diagnosis of vasospasm after subarachnoid hemorrhage using transcranial color flow image
Misaki Kohama Kohnan Hospital
**13th International Conference on Neurovascular Events after Subarachnoid Hemorrhage**

**P2-4**  
Quantification of subarachnoid hemorrhage by three-dimensional computed tomography: prediction of symptomatic vasospasm  
Taku Sato  
Fukushima Medical University

**P2-5**  
CT perfusion in the prediction of territorial development of delayed cerebral ischemia  
Atsushi Sasahara  
Tokyo Women’s Medical University Medical Center East

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### Poster 3  
13:15 - 13:55

**Pathophysiology - inflammation**  
Chairperson: Hiroki Kurita  
Saitama Medical University International Medical Center

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| P3-1    | Effect of anti-high mobility group box-1 monoclonal antibody on delayed cerebral vasospasm following subarachnoid hemorrhage in rats | Jun Haruma  
Department of Neurological Surgery, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, Japan |
| P3-2    | Glycyrrhizic acid confers neuroprotection after subarachnoid hemorrhage via inhibition of high mobility group box-1 protein | Chunhua Hang  
Department of Neurosurgery, Jinling Hospital, Nanjing University |
| P3-3    | The role of IL-6, ET-1 in the pathophysiology of vasospasm, delayed cerebral injury after Subarachnoid Hemorrhage | Carl Muroi  
NEURO Lab, Research Group for Experimental Neurosurgery and Neurocritical Care, Department of Intensive Care Medicine, University Hospital and University of Bern, Bern, Switzerland / Department of Neurosurgery, Kantonsspital Aarau, Aarau, Switzerland |
| P3-4    | Changes in the Cerebrospinal Fluid Lipid Profile after Subarachnoid Hemorrhage and Intrathecal Interleukin-6 Application in the Rabbit | Edin Nevzati  
NEURO Lab, Research Group for Experimental Neurosurgery and Neurocritical Care, Department of Intensive Care Medicine, University Hospital and University of Bern, Bern, Switzerland / Department of Neurosurgery, Kantonsspital Aarau, Aarau, Switzerland |
| P3-5    | Analysis of expression of microRNAs regulating MMP9 mRNA expression in a rat SAH model | Ryota Kurogi  
Kyushu University |
| P3-6    | Brain irradiation leads to an alteration of the blood brain barrier (BBB), facilitating monocyte migration upon subarachnoid hemorrhage (SAH) | Ulf C. Schneider  
Charite - Universitaetsmedizin Berlin |

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### Poster 4  
13:15 - 13:55

**Experimental study - treatment / aneurysm**  
Chairperson: Carl Muroi  
Department of Neurosurgery, Kantonsspital Aarau, Switzerland

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| P4-1    | Role of neurexin-1&beta and neuroligin-1 in cognitive dysfunction after subarachnoid hemorrhage in rats | Haitao Shen  
Department of Neurosurgery & Brain and Nerve Research Laboratory, The First Affiliated Hospital of Soochow University, Suzhou, Jiangsu Province, China |
| P4-2    | Intracerebroventricular administration of sodium nitroprusside does not improve brain perfusion in the early vasospasm after subarachnoid hemorrhage | Martin Kolar  
Dept. of Anesthesiology and Critical Care medicine |
Evaluation of cytotoxic effects of indocyanine green and irradiation with near infrared light on cultured human astrocytes

Christopher Mark Sikorski  Neurocritical Care Unit, Department of Neurosurgery, University Hospital Zurich, Switzerland

Natural cerebral aneurysm and spontaneous subarachnoid hemorrhage of animals other than man: Is there a place for a comparative approach?

Carl Muroi  Department of Neurosurgery, Kantonsspital Aarau, Switzerland

Paradigm Shift - From Lumen to Wall oriented Therapy of Intracranial Aneurysms

Serge Marbacher  Neurosurgery Research Group, Biomedicum Helsinki and Department of Neurosurgery, Helsinki University Central Hospital, Helsinki, Finland / Department of Neurosurgery, Kantonsspital Aarau, Aarau, Switzerland

Biodegradable Embolization for the Treatment of Experimental Saccular Aneurysms Using Magnesium Based Metal Stents - A Feasibility Study

Serge Marbacher  Department of Neurosurgery, Kantonsspital Aarau, Switzerland / Neuro Lab, Research Group for Experimental Neurosurgery and Neurocritical Care, Department of Intensive Care Medicine, University Hospital and University of Bern, 3010 Bern, Switzerland

Possible therapeutic application of an artificial heart-kidney machine to DCI

Tomio Ohta  Osaka Neurological Institute

VENOUS ROLE IN BRAIN INJURY AFTER SAH

John Zhang  Loma Linda University

Spontaneous calcium signaling events in astrocyte endfeet underlie SAH-induced inversion of neurovascular coupling

Anthony C. Pappas  University of Vermont

Global and local dysregulation of cerebral blood flow in a mouse model of subarachnoid hemorrhage

Masayo Koide  University of Vermont

Complement activation in delayed cerebral ischemia after aneurysmal subarachnoid hemorrhage: an autopsy study

Mervyn D.I. Vergouwen  University Medical Center Utrecht

Spreading depolarization threshold is reduced and spreading ischemia is prolonged in spontaneously hypertensive stroke-prone rats under Japanese diet

Jens P. Dreier  Center for Stroke Research Berlin, Charite University Medicine Berlin / Department of Experimental Neurology, Charite University Medicine Berlin / Department of Neurology, Charite University Medicine Berlin
Oral 3  
15:30 - 16:40

Pathophysiology of Vasospasm / DCI - EBI

Chairpersons: Masakazu Takayasu  
Department of Neurosurgery, Aichi Medical University

Jose I Suarez  
Baylor College of Medicine

03-1  The paradigm shift from delayed cerebral vasospasm to early brain injury after subarachnoid hemorrhage reflected in preclinical research  
Serge Marbacher  
Department of Neurosurgery, Kantonsspital Aarau, Switzerland / Neuro Lab, Research Group for Experimental Neurosurgery and Neurocritical Care, Department of Intensive Care Medicine, University Hospital and University of Bern, 3010 Bern, Switzerland

03-2  Relationship between elevation of intracranial pressure and early brain injury after experimental subarachnoid hemorrhage  
Liang Wang  
Department of Neurosurgery, Hirosaki University Graduate School of Medicine / Department of Vascular Biology, Hirosaki University Graduate School of Medicine

03-3  Assessment of membrane depolarization on brain cortex during acute phase of subarachnoid hemorrhage in rats  
Yuji Takasugi  
Department of Neurological Surgery, Okayama University Graduate School of Medicine

03-4  Continuity of the blood-brain barrier after subarachnoid hemorrhage in mice  
Ulf C. Schneider  
Charite - Universitaetsmedizin Berlin

03-5  Neurovascular coupling after subarachnoid hemorrhage in vivo  
Matilde Balbi  
Institute for Stroke and Dementia Research (ISD), University of Munich Medical Center, Munich, Germany / Graduate School of Systemic Neurosciences (GSN), Ludwig-Maximilians University (LMU), Munich, Germany

Oral 4  
16:40 - 17:50

Pathophysiology of Vasospasm / DCI - microcirculation / inflammation

Chairpersons: Toru Matsui  
Department of Neurosurgery, Saitama Medical Center

Jed A. Hartings  
Mayfield Clinic and Department of Neurosurgery, University of Cincinnati, Cincinnati, Ohio, USA

04-1  The Role of Platelet Activation and Inflammation in Acute Brain Injury following Subarachnoid Hemorrhage  
Jennifer A. Frontera  
Cleveland Clinic

04-2  The Relationship of Platelet-Leukocyte Aggregates and Acute Brain Injury after Subarachnoid Hemorrhage  
Jennifer A. Frontera  
Cleveland Clinic

04-3  Endothelin-1 potentiates Heparin-binding EGF-like growth factor-induced vasoconstriction in rat parenchymal arterioles  
Masaru Idei  
Department of Pharmacology, University of Vermont College of Medicine, Burlington, Vermont / Department of Neurosurgery, University of Occupational and Environmental Health, Fukuoka, Japan
Cerebral microcirculatory changes after subarachnoid hemorrhage

Hoyee Wan  
Physical Sciences, Sunnybrook Research Institute and Medical Biophysics, University of Toronto, Toronto, Canada / Department of Neurosurgery, St. Michael's Hospital, Toronto, Canada / Keenan Research Center, St. Michael's Hospital, Toronto, Canada

Inflammatory cell invasion into human brain tissue after subarachnoid hemorrhage (SAH) is a possible cause for secondary brain injury

Ulf C. Schneider  
Charite - Universitaetsmedizin Berlin

Serial changes of IL-6, MCP-1 and CXCL10 in CSF after subarachnoid hemorrhage

Aichi Niwa  
Aichi Medical University

Evening Seminar  
18:00 - 19:00

Chairperson: Eiji Isotani  
Department of Emergency and Critical Care Medicine  
Tokyo Women's Medical University Medical Center East

Temperature management in subarachnoid hemorrhage

Eiichi Suehiro  
Department of Neurosurgery, Yamaguchi University School of Medicine

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**Morning Seminar 1** 7:30 - 8:30

**Chairperson:** Hidenori Suzuki  Department of Neurosurgery, Mie University Graduate School of Medicine

**MS1**  Clinical Importance of CT for Subarachnoid Hemorrhage and Cerebral Aneurysms  

*Motoharu Hayakawa*  Department of Neurosurgery, School of Medicine, Fujita Health University  

Sponsored by Toshiba Medical Systems Corporation

**Oral 5** 8:40 - 9:50

**Neurocritical care of SAH patients**

**Chairpersons:** Izumi Nagata  Department of Neurosurgery, Kokura Kinen Hospital  

Phyo Kim  Department of Neurosurgery, Dokkyo Medical University

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**05-1**  Escalation of treatment for DCI after SAH based on a novel multimodal alarm level  

*Gregory Kapinos*  Hofstra North Shore LIJ School of Medicine

**05-2**  The role of catecholamines in the pathogenesis of neurogenic pulmonary edema associated with subarachnoid hemorrhage  

*Joji Inamasu*  Fujita Health University Hospital, Dept. of Neurosurgery

**05-3**  Forecasting Intracranial Hypertension Using Waveform and Time Series Features  

*Matthias Hueser*  Mobile Health Systems Lab, Department of Health Sciences and Technology, ETH Zurich, Switzerland

**05-4**  Human albumin use in subarachnoid hemorrhage  

*Jose I Suarez*  Baylor College of Medicine

**05-5**  CONTRAST-INDUCED NEPHROPATHY FOLLOWING COIL EMBOLIZATION OF RUPTURED INTRACRANIAL ANEURYSMS  

*Je Young Yeon*  Samsung Medical Center

**05-6**  Terson Syndrom in aneurysmal subarachnoid hemorrhage - its relation to ICP and admission factors  

*Martin N. Stienen*  Department of Neurosurgery, University Hospital Geneva, Geneva, Switzerland /  
Department of Neurosurgery, Kantonsspital St. Gallen, St. Gallen, Switzerland

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**Symposium 3** 9:50 - 11:05

**Clinical trials of prevention and treatment of Vasospasm / DCI**

**Chairpersons:** Teiji Tominaga  Department of Neurosurgery, Tohoku University School of Medicine  

Ulf C. Schneider  Charite - Universitaetsmedizin Berlin

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**S3-1**  Effect of eicosapentaenoic/docosahexaenoic acid for prevention of cerebral vasospasm following aneurysmal subarachnoid hemorrhage  

*Ichiro Nakagawa*  Department of Neurosurgery, Nara Medical University

**S3-2**  Cognitive Outcome in High-dose simvastatin for aneurysmal subarachnoid hemorrhage (HDS-SAH): a propensity matched analysis  

*George Wong*  Prince of Wales Hospital, Chinese University of Hong Kong, Hong Kong
S3-3 Proposal of a new therapeutic strategy - intravenous infusion of hydrogen-rich fluid combined with intra-cisternal infusion of magnesium sulfate  
Satoru Takeuchi Department of Neurosurgery, National Defense Medical College

S3-4 Safety of PEGylated Carboxyhemoglobin Bovine (Sanguinate) Infusion in Patients at Risk for Delayed Cerebral Ischemia after Subarachnoid Hemorrhage  
Rajat Dhar Washington University in St. Louis

S3-5 ELECTRICAL STIMULATION OF THE CAROTID BIFURCATION AS A TREATMENT OF VASOSPASM IN ANEURYSMAL SUBARACHNOID HEMORRHAGE (SAH) PATIENTS  
Stefan Wolf Department of Neurosurgery, Campus Virchow Klinikum, Charite University, Berlin, Germany

Special Lecture 2 ~ Keiji Sano Lectureship  
Chairperson: Hidetoshi Kasuya Department of Neurosurgery, Tokyo Women's Medical University Medical Center East

SL2-1 A site-specific, sustained release drug delivery system for aneurysmal subarachnoid hemorrhage  
Daniel Hanggi Heinrich Heine University

SL2-2 NEWTON - Nimodipine microparticles to Enhance recovery While reducing TOxicity after subarachNoid hemorrhage  
Daniel Hanggi Heinrich Heine University

Luncheon Seminar 2  
Chairperson: Hiroki Ohkuma Department of Neurosurgery, Hirosaki University School of Medicine

LS2 Revised recommendations of antithrombotic therapy for the secondary prevention of ischemic stroke in “Japanese Guidelines for the Management of Stroke 2015”  
Kortaro Tanaka Department of Neurology, Toyama University Hospital  
Sponsored by Otsuka Pharmaceutical Co., Ltd.

Poster 5  
Clinical Study - Treatment 2  
Chairperson: Fusao Ikawa Department of Neurosurgery, Shimane Prefectural Central Hospital

P5-1 Feasibility and safety of prophylactic normothermia with endovascular cooling device after initial therapeutic hypothermia in subarachnoid hemorrhage  
Hitoshi Kobata Osaka Mishima Emergency Critical Care Center

P5-2 Strategies for prevention of cerebral ischemia due to vasospasm in the Chiba Hokuso Hospital  
Fumihiro Matano Nippon Medical School Chiba Hokuso Hospital

P5-3 Treatment outcome of elderly patients with subarachnoid hemorrhage in Kyorin University hospital  
Kiyotaka Satou Department of Neurosurgery, Kyorin University

P5-4 The effectiveness of intra-arterial infusion of fasudil hydrochloride for cerebral vasospasm due to SAH in the elderly  
Hitoshi Kimura Toho University Medical Center Ohashi Hospital
P5-5  Coil embolization for ruptured cerebral aneurysms in elderly patients over 80 years old  
Yukei Shinji  Department of Neurological Surgery, Okayama University Graduate School of Medicine

P5-6  Effect of early getting out of bed after subarachnoid hemorrhage on the incidence of symptomatic cerebral vasospasm  
Rina Torisu  Hachisuga hospital

**Poster 6**  
**13:10 - 13:50**

**Risk factor / Prediction / Outcome**

**Chairperson:** Martin N. Stienen  Department of Neurosurgery, University Hospital Geneva, Switzerland

P6-1  Domain-specific neuropsychological deficits following aneurysmal subarachnoid hemorrhage  
Martin N. Stienen  Department of Neurosurgery, University Hospital Geneva, Switzerland

P6-2  Delayed Cerebral Ischemia is the Strongest Predictor of Neurocognitive Impairment Following Aneurysmal Subarachnoid Hemorrhage  
Martin N. Stienen  Department of Neurosurgery, University Hospital Geneva, Switzerland / Department of Neurosurgery, Kantonsspital St. Gallen, St. Gallen, Switzerland

P6-3  Early diagnosis of DCI: Is there relevance for inflammatory biomarkers in routine clinical practice?  
Anke Hoellig  Department of Neurosurgery, RWTH Aachen University

P6-4  Spectrophotometric analysis of cerebrospinal fluid (CSF) after aneurysmal subarachnoid hemorrhage (aSAH)  
Christopher Mark Sikorski  Neurocritical Care Unit, Department of Neurosurgery, University Hospital Zurich, Switzerland

P6-5  Adrenomedullin in the cerebrospinal fluid is related to appetite loss and delayed ischemic neurological deficits after subarachnoid hemorrhage  
Yoshitaka Kubo  Iwate Medical University

P6-6  Cranial temperature as a marker for the diagnosis of hemorrhagic stroke and ischemic stroke  
Liang Tan  Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China

**Poster 7**  
**13:10 - 13:55**

**Pathophysiology - EBI**

**Chairperson:** Jennifer A. Frontera  Cleveland Clinic

P7-1  Filament Perforation Model for Mouse Subarachnoid Hemorrhage: Evaluation by 7.0T MRI  
Carl Izumi Muroi  Institute of Aging and Brain Sciences, Faculty of Pharmaceutical Sciences, Fukuoka University, Fukuoka, Japan / Department of Neurosurgery, Kantonsspital Aarau, Aarau, Switzerland

P7-2  Cyclophilin A/CD147 interactions participate in early brain injury after subarachnoid hemorrhage in rats  
Baoqi Dang  Department of Neurosurgery & Brain and Nerve Research Laboratory, The First Affiliated Hospital of Soochow University, Suzhou, Jiangsu Province, China / Department of Rehabilitation Medicine, Zhangjiagang Hospital of Traditional Chinese Medicine, Soochow University, Suzhou, Jiangsu Province, China
P7-3 Hydrogen sulfide ameliorates early brain injury following subarachnoid hemorrhage in rats
Yonghua Cui Department of Neurosurgery & Brain and Nerve Research Laboratory, The First Affiliated Hospital of Soochow University, Suzhou, Jiangsu Province, China

P7-4 Role of tenascin-C in early brain injury: Evaluation using tenascin-C knockout mice
Masashi Fujimoto Saiseikai Matsusaka General Hospital

P7-5 Hemoglobin induced NO/cGMP suppression Deteriorate Microcirculation via Pericyte Phenotype Transformation after Subarachnoid Hemorrhage in Rats
Qiang Li Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China

P7-6 Combination therapy of intravenous hydrogen-rich fluid and intra-cisternal magnesium saltate The therapeutic effects in the rodent SAH model
Kazuya Fujii National Defense Medical Collage

P7-7 Efficacy of edaravone, a free radical scavenger, on early brain injury after experimental subarachnoid hemorrhage
Masato Naraoka Department of Neurosurgery, Hirosaki University Graduate School of Medicine

Poster 8
13:10 - 13:50
Experimental study - ICH / the others
Chairperson: Joji Inamasu Fujita Health University Hospital, Dept. of Neurosurgery

P8-1 Urokinase versus Alteplase for Fibrinolytic Therapy of Intracerebral Hemorrhage
Qiang Tan Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China

P8-2 Intracerebral hematoma contributes to hydrocephalus after intraventricular hemorrhage—A preclinical study
Qianwei Chen Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China

P8-3 Curcumin reduces cerebral T lymphocytes infiltration after experimental intracerebral hemorrhage in mice
Wei Liu Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China

P8-4 P2X7 Receptor Suppression Preserves Blood-Brain Barrier through Inhibiting RhoA Activation after Experimental Intracerebral Hemorrhage in Rats
Hengli Zhao Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China

P8-5 Fractalkine/CX3CR1 Involved in Cannabinoid Receptor 2-induced Neurogenesis in Hippocampus in a Rat Model of Germinal Matrix Hemorrhage
Jun Tang Department of Neurosurgery, Southwest Hospital, Third Military Medical University

P8-6 BBB integrity and microglia polarization are strongly linked with the neuroprotection effects of cannabinoid receptor 2 stimulation in GMH rat model
Yihao Tao Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China
Morning Seminar 2  
7:30 - 8:30

Chairperson: Yoko Kato  
Fujita Health University, Banbuntane Hotokukai Hospital, Neuro Vascular Stroke Center

MS2  
Therapeutic strategy for cerebral aneurysm  
- Imaging diagnosis and preoperative simulation -  
Fusao Ikawa  
Department of Neurosurgery, Shimane Prefectural Central Hospital

Sponsored by Siemens Japan K.K.

Oral 6  
8:40 - 9:50

Pathophysiology of Vasospasm / DCI - the others

Chairpersons: Aij Lie Kwan  
Prof of Department of Neurosurgery Kaohsiung Medical University  
Juhana Frosen  
Dept of Neurosurgery, Kuopio University Hospital

06-1  
Lipocalin-type prostaglandin D synthase scavenges heme breakdown products in the CSF of patients with aneurysmal subarachnoid hemorrhage  
Mitsuhito Mase  
Department of Neurosurgery, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

06-2  
Possible Maladaptive Response Of The Rostroventral Medial Medulla During The Delayed Phase Following Subarachnoid Hemorrhage  
Justin Schultz Cetas  
Oregon Health & Science University

06-3  
OUTCOME AFTER ANEURYSMAL SAH IS ASSOCIATED WITH POLYMORPHISMS OF HEME OXYGENASE-1 PROMOTER REGION  
Juhana Frosen  
Dept of Neurosurgery, Kuopio University Hospital

06-4  
TARGETING THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR IN CEREBROVASCULAR DYSFUNCTION ASSOCIATED WITH SUBARACHNOID HEMORRHAGE  
Jessica Fares  
Department of Physiology, University of Toronto, Toronto, Canada

06-5  
Effects of Hyperglycemia on Cerebral Vasospasm following Subarachnoid Hemorrhage in the Rodent Model  
Yu Hua Huang  
Department of Neurosurgery, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University College of Medicine, Kaohsiung, Taiwan / Graduate Institute of Medicine, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

06-6  
BEHAVIORAL CHARACTERIZATION OF THE ANTERIOR INJECTION MODEL OF SUBARACHNOID HEMORRHAGE  
Susanne Boettinger  
Department of Neurology, Medical University Innsbruck, Austria

Special Lecture 3 ～ Keiji Sano Lectureship  
9:50 - 10:05

Chairperson: Shigeru Nishizawa  
Department of Neurosurgery, University of Occupational and Environmental Health

SL3  
Consequences and treatment of hyper acute cerebral vasospasm: International clinical study proposal  
Ryszard Pluta  
Bethesda, USA
Symposium 4

Possible therapeutic measures of cerebral Vasospasm / DCI in future based on the basic research

Chairpersons: Takashi Watanabe  Department of Neurosurgery, Tottori University
Jens P. Dreier  Center for Stroke Research Berlin, Charite University Medicine Berlin / Department of Experimental Neurology, Charite University Medicine Berlin / Department of Neurology, Charite University Medicine Berlin

S4-1  Anti-VEGF treatment alleviates early brain injury by modulating tenascin-C expression after subarachnoid hemorrhage in mice
Lei Liu  Department of Neurosurgery, Mie University Graduate School of Medicine, Tsu, Japan

S4-2  Effect of Adiponectin on Cerebral Arteries after SAH
Koji Osuka  Aichi Medical University

S4-3  Minocycline Regulates Neuron Apoptosis following Subarachnoid Hemorrhage via Attenuating Microglia Activation
Shu Jyuan Chang  Graduate Institute of Medicine, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

S4-4  Subarachnoid hemorrhage research in China: past, now, and future
Gang Chen  The First Affiliated Hospital of Soochow University

S4-5  Purpurogallin, a natural phenol, attenuates high-mobility group box 1 in subarachnoid hemorrhage induced vasospasm in a rat model
Keng Liang Kuo  Division of Neurosurgery, Department of Surgery, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan

Poster 9

Clinical Study - Treatment 3

Chairperson: Satoshi Iwabuchi  Department of Neurosurgery, Toho University Ohashi Medical Center

P9-1  Treatment selection and outcomes of ruptured cerebral aneurysms patients admitted between Day 4 and Day 14
Taigen Nakamura  Aomori Prefectural Central Hospital

P9-2  Factors affecting the occurrence of vasospasm after aneurysmal subarachnoid hemorrhage at single institution
Shogo Dofuku  Tokyo University

P9-3  Current management for vasospasm following subarachnoid hemorrhage: envovascular option
Yoichi Morofuji  Department of Neurosurgery, Nagasaki University

P9-4  The Impact of Timing of Endovascular Aneurysm Treatment on Clinical Outcome in Subarachnoid Hemorrhage
Sapna Rawal  Toronto Western Hospital, University of Toronto
Poster 10
11:30 - 11:50

Pathophysiology - Clinical Study -
Chairperson: Koji Osuka Department of Neurological Surgery, Aichi Medical University

P10-1 Cerebrovascular resistance in polytraumatized patients with cerebral vasospasm
Alexey Trofimov Nizhny Novgorod Medical State Academy / Regional Clinical Hospital named after N.A. Semashko

P10-2 Decrease of the pro-angiogenic factor ENA-78 in cerebral ischemia after subarachnoid hemorrhage
Susanne Boettinger Department of Neurology, Medical University Innsbruck, Austria

P10-3 Roles of angiographic vasospasm and microcirculatory dysfunction on delayed cerebral ischemia after aneurysmal subarachnoid hemorrhage
Masato Naraoka Department of Neurosurgery, Hirosaki University Graduate School of Medicine

Poster 11
11:30 - 12:00

Clinical Study - ICH / the others
Chairperson: Gregory Kapinos Hofstra North Shore LIJ School of Medicine

P11-1 Decompressive Hemicraniectomy or Not for Supratentorial Intracerebral Hemorrhage: A single center, Prospective, Randomized, Controlled trials
Rong Hu Department of Neurosurgery and Key Laboratory of Neurotrauma, Southwest Hospital, Third Military Medical University, Chongqing, China

P11-2 Meta-Analysis of Intraventricular Recombinant Tissue Plasminogen Activator in Treatment of Aneurysmal Intraventricular Hemorrhage
Sheng Chen Second Affiliated Hospital, School of Medicine, Zhejiang University

P11-3 A case of reversible central auditory dysfunction caused by cerebral vasospasm following traumatic subarachnoid hemorrhage
Wataru Shimohigoshi Saitama Medical University International Medical Center

P11-4 A case of infarction of the total length of the corpus callosum due to vasospasm in subarachnoid hemorrhage
Satoru Takahashi Soka Municipal Hospital

P11-5 Symptomatic cerebral vasospasm after resection of a lobar oligodendrogloma: a case report
Koichiro Komatsubara Kyorin University

Poster 12
11:30 - 12:10

Pathophysiology - TLR4 / the others
Chairperson: Chih Zen Chang Department of Surgery, Faculty of Medicine, School of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

P12-1 Tenascin-C contracts rat cerebral artery via epidermal growth factor receptor
Fumi Nakano Department of Neurosurgery, Mie University Graduate School of Medicine, Tsu, Japan

P12-2 Effects of iodinated contrast media in a novel in vitro model of vasospasm due to hemorrhage
Tatiana Nikitina Institute of Vegetative Physiology, Charite-Universitaetsmedizin Berlin, Berlin, Germany
### P12-3 SUBARACHNOID HEMORRHAGE RESULTS IN FUNCTIONAL DEFECTS IN NEURONAL AXONS OF WHITE MATTER

Charles Kyung Min Lee  
Laboratory Medicine and Pathobiology, University of Toronto / Labatt Family Centre of Excellence in Brain Injury and Trauma Research, Keenan Research Centre for Biomedical Science

### P12-4 Effects of TLR4 signalling after subarachnoid hemorrhage

Shakira Brathwaite  
Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, Canada / Department of Physiology, Faculty of Medicine, University of Toronto, Toronto, Canada

### P12-5 Toll-like receptor 4 contributes to vasospasm development after experimental subarachnoid hemorrhage in mice

Fumihiro Kawakita  
Department of Neurosurgery, Mie University

### P12-6 Glycyrrhizin Attenuates Toll like Receptor-2, -4 and Experimental Vasospasm in Rat

Chih Zen Chang  
Department of Surgery, Faculty of Medicine, School of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan / Division of Neurosurgery, Department of Surgery, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan / Department of Surgery, Kaohsiung Municipal Ta Tung Hospital, Kaohsiung, Taiwan

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**Luncheon Seminar 3**  
12:20 - 13:20

Chairperson: Yoshikazu Okada  
Tokyo Women's Medical University

LS3 What is "cerebral vasospasm" after SAH?  
- From scientific and clinical viewpoints -  
Shigeru Nishizawa  
Department of Neurosurgery, University of Occupational and Environmental Health  
Sponsored by Medicaline Co., Ltd.

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**Special Lecture 4 ~ Kelji Sano Lectureship**  
13:30 - 13:50

Chairperson: Kenji Kanamaru  
Department of Neurosurgery, and Stroke Center, Suzuka Kaisei Hospital

SL4 Mechanisms underlying increased vascular contractility after subarachnoid hemorrhage  
Yuichiro Kikkawa  
Saitama Medical University International Medical Center

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**Symposium 5**  
13:50 - 15:05

Clinical trial of Cilostazol

Chairpersons: Hiroyuki Kinouchi  
Department of Neurosurgery, University of Yamanashi  
Dae-Won Kim  
Department of Neurosurgery, Wonkwang University Hospital

S5-1 Effects of cilostazol on cerebral vasospasm after aneurysmal subarachnoid hemorrhage  
Kazuya Kanemaru  
Department of Neurosurgery, University of Yamanashi

S5-2 Effect of Cilostazol, in prevention of cerebral vasospasm following aneurysmal subarachnoid hemorrhage: a randomized, double-blind, controlled trial  
Naoya Matsuda  
Hirokasi University Graduate School of Medicine, Department of Neurosurgery

S5-3 Analysis of subarachnoid hemorrhage patients in Japan: An epidemiological study based on a national administrative database  
Makoto Sakamoto  
Tottori University
Cortical spreading depolarization and subarachnoid hemorrhage: effect of cilostazol on delayed cerebral ischemia

Kazutaka Sugimoto Department of Neurosurgery, Yamaguchi University graduate school of medicine, Yamaguchi, Japan / Department of Neurosurgery, Kenwakai Otemachi hospital, Fukuoka, Japan

Cilostazol dose-up against tenascin-C induction and delayed cerebral ischemia after aneurysmal subarachnoid hemorrhage: A pilot study

Hidenori Suzuki Mie University

Methods and results of Vasospasm / DCI - treatment in your hospital

Chairpersons: Tatsuya Ishikawa Research Institute for Brain and Blood Vessels-Akita
Stefan Wolf Department of Neurosurgery, Campus Virchow Klinikum, Charite University, Berlin, Germany

Combination radical hematoma removal and multiple-drug therapy prevents cerebral vasospasm in aneurysmal subarachnoid hemorrhage

Hisayasu Saito Department of Neurosurgery, Japanese Red Cross Asahikawa Hospital

Impacts of the meticulous clot irrigation and low-dose intravenous nicardipine on the symptomatic cerebral vasospasm in subarachnoid hemorrhage

Hidetoshi Matsukawa Department of Neurosurgery, Teishinkai Hospital

How cisternal irrigation with Mg and ascorbic acid works in treatment for patients with SAH

Akira Satoh Kurosawa Hospital / Tokyo Kyosai Hospital

Population-based study of surgical management for ruptured anterior communicating artery (ACoA) aneurysms

Takeshi Hiu Department of Neurosurgery, National Nagasaki Medical Center

Prophylactic injection of vasodilator via major artery converts asymptomatic vasospasm to symptomatic vasospasm due to microcirculatory imbalance

Norihito Shimamura Department of Neurosurgery, Hirosaki University Graduate School of Medicine

Cerebral circulation after intraarterial administration of fasudil chrolide for prevention of cerebral vasospasm after subarachnoid hemorrhage

Atsushi Saito Department of Neurosurgery, Aomori Prefectural Central Hospital