Stroke: Highlights of Selected Articles

Original Contributions

Clinical Sciences

Discovery of New Risk Markers for Ischemic Stroke Using a Novel Targeted Proteomics Chip
Lars Lind, MD, PhD; Agnete Siegbahn, MD, PhD; Berit Lindahl, MD, PhD; Markus Stenemo, BSc, MSc;
Johan Sundström, MD, PhD; Johan Arnlöv, MD, PhD .......................... 3340

Air Pollution and Ischemic Stroke Among Young Adults
Maayan Yitshak Sade, MPH; Victor Novack, MD, PhD; Gal Ifergane, MD; Anat Horev, MD; Itai Klooog, PhD .... 3348

Incidence of Stroke or Systemic Embolism in Paroxysmal Versus Sustained Atrial Fibrillation:
The Fushimi Atrial Fibrillation Registry
Kensuke Takabayashi, MD; Yasuhiro Hamatani, MD; Yugo Yamashita, MD; Daisuke Takagi, MD; Takashi Unoki, MD;
Mitsuru Ishii, MD; Moritake Iguchi, MD, PhD; Nobutoyo Masunaga, MD;
Hisashi Ogawa, MD; Masahiro Esato, MD, PhD; Yeong-Hwa Chun, MD, PhD; Hikari Tsuji, MD, PhD;
Hiromichi Wada, MD, PhD; Koji Hasegawa, MD, PhD; Mitsuru Abe, MD, PhD; Gregory Y.H. Lip, MD;
Masaharu Akao, MD, PhD .............................................................. 3354

Effects of Blood Pressure and Blood Pressure-Lowering Treatment During the First 24 Hours Among
Patients in the Third International Stroke Trial of Thrombolytic Treatment for Acute Ischemic Stroke
Eivind Berge, MD; Geoffrey Cohen, MSc; Richard I. Lindley, MD; Peter Sandercock, DM;
Joanna M. Wardlaw, MD; Else C. Sandset, MD; William Whiteley, MD .......................... 3362

Benefits of Stroke Treatment Using a Mobile Stroke Unit Compared With Standard Management:
The BEST-MSU Study Run-In Phase
Ritvij Bowry, MD; Stephanie Parker, RN; Suja S. Rajan, PhD; Jose-Miguel Yamal, PhD; Tzu-Ching Wu, MD;
Laura Richardson, BS; Elizabeth Noser, MD; David Persse, MD; Kamilah Jackson, RT; James C. Grotta, MD .... 3370

Value of Computed Tomographic Perfusion–Based Patient Selection for Intra-Arterial Acute Ischemic Stroke

Stroke Treatment
Jordi Borst, MD, MSc; Olvert A. Berkhemer, MD; Yvo B.W.E.M. Roos, MD, PhD; Ed van Bavel, PhD;
Wim H. van Zwam, MD, PhD; Robert J. van Oostenbrugge, MD, PhD; Marianne A.A. van Walderveen, MD, PhD;
Hester F. Lingsma, PhD; Aad van der Lugt, MD, PhD; Diederik W.J. Dippel, MD, PhD; Albert J. Yoo, MD;
Henk A. Marquering, PhD; Charles B.L.M. Majoie, MD, PhD; on behalf of the MR CLEAN investigators ........... 3375

Time-Resolved C-Arm Computed Tomographic Angiography Derived From Computed
Tomographic Perfusion Acquisition: New Capability for One-Stop-Shop Acute Ischemic Stroke
Treatment in the Angiosuite
Pengfei Yang, MD; Kai Niu, PhD; YiJing Wu, PhD; Tobias Straffert, MD; Arnd Dorfler, MD;
Sebastian Schafer, PhD; Kevin Royalty, PhD; Charles Strother, MD; Guang-Hong Chen, PhD .................. 3383
Time-Dependent Computed Tomographic Perfusion Thresholds for Patients With Acute Ischemic Stroke
Christopher D. d’Esteerre, PhD; Mari E. Boesen, MSc; Seong Hwan Ahn, MD; Poonieh Pordeli, PhD; Mohamed Najm, BSc; Priyanka Minhas, MD; Paniz Davari, MSc; Enrico Fainardi, MD; Marta Rubiera, MD; Alexander V. Khaw, MD; Andrea Zini, MD; Richard Frayne, PhD; Michael D. Hill, MD, MSc; Andrew M. Demchuk, MD; Tolulope T. Sajobi, PhD; Nils D. Forkert, PhD; Mayank Goyal, MD; Ting Y. Lee, PhD; Bijoy K. Menon, MSc

Impact of Collateral Status Evaluated by Dynamic Computed Tomographic Angiography on Clinical Outcome in Patients With Ischemic Stroke
Ido R. van den Wijngaard, MD; Jelis Boiten, PhD; Ghislaine Holswilder, MSc; Ale Algra, MD, PhD; Diederik W.J. Dippel, MD, PhD; Birgitta K. Velthuis, MD, PhD; Marieke J.H. Wermer, MD, PhD; Marianne A.A. van Walderveen, MD, PhD

Phone and Video-Based Modalities of Central Blinded Adjudication of Modified Rankin Scores in an Endovascular Stroke Trial
Elena López-Cancio, MD, PhD; Mercè Salvat, RN; Neus Cerdà, MS; Marta Jiménez, MD; Javier Codas, MD; Laura Llull, MD; Sandra Boned, MD; Luis M. Cano, MD; Blanca Lara, MD; Carlos Molina, MD, PhD; Erik Cobo, MD, PhD; Antonio Dávalos, MD, PhD; Tudor G. Jovin, MD; Joaquín Serena, MD, PhD; on behalf of REVASCAT investigators

Use of Antiplatelet Agents Is Associated With Intraplaque Hemorrhage on Carotid Magnetic Resonance Imaging: The Plaque at Risk Study
Madieke I. Liem, MD; Floris H.B.M. Schreuder, MD; Anouk C. van Dijk, MD; Alexandra A.J. de Rotte, MD; Martine T.B. Truijman, MD; Mat J.A.P. Daemen, MD, PhD; Anton F.W. van der Steen, PhD; Jeroen Hendrikse, MD, PhD; Aart J. Nederkoorn, MD, PhD; Paul J. Nederkoorn, MD, PhD

Endovascular Therapy Is Effective and Safe for Patients With Severe Ischemic Stroke: Pooled Analysis of Interventional Management of Stroke III and Multicenter Randomized Clinical Trial of Endovascular Therapy for Acute Ischemic Stroke in the Netherlands Data
Joseph P. Broderick, MD; Olavt A. Berkhemer, MD; Yuko Y. Palesch, PhD; Diederik W.J. Dippel, MD, PhD; Lydia D. Foster, MD; Yvo B.W.E.M. Roos, MD, PhD; Aad van der Luijt, MD; Thomas A. Tommick, MD; Charles B.L.M. Majoe, MD, PhD; Wim H. van Zwan, MD, PhD; Andrew M. Demchuk, MD; Robert J. van Oostenbrugge, MD, PhD; Pooja Khatri, MD; Hester F. Lingoma, PhD; Michael D. Hill, MD; Bob Roozenbeek, MD; Edward C. Jauch, MD; Tudor G. Jovin, MD; Bernard Yan, MD; Rudiger von Kummer, Dr. Med; Carlos A. Molina, MD; Mayank Goyal, MD; Wouter J. Schonewille, MD, PhD; Mikael Mazighi, MD, PhD; Stefan T. Engelter, MD; Craig S. Anderson, MD, PhD; Judith Spilker, RN, BSN; Janice Carrozzella, RN, BA, RT (R); Karla J. Ryckborst, RN, BN; L. Scott Janis, PhD; Kit N. Simpson, PhD; for the IMS II and MR CLEAN Investigators

Summary of Evidence on Early Carotid Intervention for Recently Symptomatic Stenosis Based on Meta-Analysis of Current Risks
Paola De Rango, MD, PhD; Martin M. Brown, MD; Seemant Chaturvedi, MD; Virginia J. Howard, PhD; Tudor Jovin, MD; Michael V. Mazza, MD, PhD; Maurizio Paciaroni, MD, PhD; Alessandra Manzone, MS; Luca Farchioni, MD; Valeria Caso, MD, PhD

Mechanical Thrombectomy in and Outside the REVASCAT Trial: Insights From a Concurrent Population-Based Stroke Registry
Xavier Urra, MD, PhD; Sonia Abilleira, MD, PhD; Laura Dorado, MD, PhD; Marc Ribó, MD, PhD; Pere Cardona, MD; Mónica Millán, MD, PhD; Angel Chamorro, MD, PhD; Carlos Molina, MD, PhD; Erik Cobo, MD; Antonio Dávalos, MD, PhD; Tudor G. Jovin, MD; Miquel Gallofré, MD, PhD; Catalan Stroke Code and Reperfusion Consortium

Association of Dietary Protein Consumption With Incident Silent Cerebral Infarcts and Stroke: The Atherosclerosis Risk in Communities (ARIC) Study
Bernhard Haring, MD, MPh; Jeffrey R. Misialek, MPH, PhD; Casey M. Rehelzolz, PhD; Natalia Petruski-Iveleva, MS; Rebecca F. Gottesman, MD, PhD; Thomas H. Mosley, PhD

Improving Adherence to Secondary Stroke Prevention Strategies Through Motivational Interviewing: Randomized Controlled Trial
Suzanne Barker-Collo, PhD; Rita Krishnamurthi, PhD; Emma Witt, MA; Valery Feigin, PhD; Amy Jones, PhD; Kathryn McPherson, Phd; Nicola Starkey, PhD; Varsha Parag, MSc; Yannan Jiang, PhD; P. Alan Barber, PhD; Elaine Rush, PhD; Derrick Bennett, PhD; Bruce Aroll, PhD

Examining Differences in Patterns of Sensory and Motor Recovery After Stroke With Robotics
Jennifer A. Semrau, PhD; Troy M. Herter, PhD; Stephen H. Scott, PhD; Sean P. Dukelow, MD, PhD
Modafinil May Alleviate Poststroke Fatigue: A Randomized, Placebo-Controlled, Double-Blinded Trial
Mai Bang Poulsen, MD; Bodil Damgaard, MD; Bo Zerahn, MD; Karsten Overgaard, MD;
Rune Skovgaard Rasmussen, MA, PhD ................................................................. 3470

Telephone Assessment and Skill-Building Kit for Stroke Caregivers: A Randomized Controlled Clinical Trial
Tamlynn Bakas, PhD, RN; Joan K. Austin, PhD, RN; Barbara Habermann, PhD, RN;
Nenette M. Jessup, MPH, CCRP; Susan M. McLennon, PhD, RN; Pamela H. Mitchell, PhD, RN;
Gwendolyn Morrison, PhD; Ziyi Yang, MS; Timothy E. Stump, MA; Michael T. Weaver, PhD, RN ................................................................. 3478

Rates and Determinants of 5-Year Outcomes After Atrial Fibrillation–Related Stroke: A Population Study
Derek T. Hayden, MB; Niamh Hannon, PhD; Elizabeth Callaly, MB; Danielle Ni Chroinín, MD;
Gillian Horgan, BSc; Lorraine Kyne, MD; Joseph Duggan, MD; Eamon Dolan, MD; Killian O’Rourke, MD;
David Williams, PhD; Sean Murphy, PhD; Peter J. Kelly, MD ........................................ 3488

Beneficial Effects of Implementing Stroke Protocols Require Establishment of a Geographically Distinct Unit
Naveed Akhtar, MD; Saadat Kamran, MD; Rajvir Singh, PhD; Peter Cameron, MD; Atlantic D’Souza, MD;
Yahya Imam, MD; Paula Bourke, PGc; Sujatha Joseph, BSc; Rabia Khan, BSc; Mark Santos, MA;
Dirk Deleu, MD, FRCP; Abdel El-Zouki, MD; Abdul Abou-Samra, MD; Adeel A. Butt, MD;
Ashfaq Shuaib, MD, FRCPC .................................................................................. 3494

Basic Sciences

Efficacy and Safety of Platelet Glycoprotein Receptor Blockade in Aged and Comorbid Mice With Acute Experimental Stroke
Peter Kraft, MD; Michael K. Schuhmann, PhD; Felix Fluri, MD; Kristina Lorenz, PhD; Alma Zernerke, MD; Guido Stoll, MD; Bernhard Nieswandt, PhD; Christoph Kleinschmidt ........................................................................ 3502

Shear-Activated Nanoparticle Aggregates Combined With Temporary Endovascular Bypass to Treat Large Vessel Occlusion
Miklos G. Marosfoi, MD; Netanel Korin, PhD; Matthew J. Gounis, PhD; Oktay Uzun, PhD;
Srinivasan Vedantham, PhD; Erin T. Langan, BS; Anne-Laure Papa, PhD; Olivia W. Brooks; Chris Johnson, BS;
Ajit S. Puri, MD; Deen Bhatta, MS; Mathumai Kanapathipillai, PhD; Ben R. Bronstein, MD; Ju-Yu Chueh, PhD;
Donald E. Inger, MD, PhD; Sean Murphy, PhD; Ajay K. Wakhloo, MD, PhD ........................................ 3507

Integrative Mouse and Human Studies Implicate angiopoietin-1 and ZBTB7C as Susceptibility Genes to Ischemic Injury
Rose Du, MD, PhD; Jing Zhou, PhD; Svetlana Lorenzino, MD, PhD; Wenming Liu, DSc;
Nareerat Charoenvimolphan, BA; Baogang Qian, MD; Jun Xu, MD; Jian Wang, MD, PhD; Ximnu Zhang, PhD; Xin Wang, PhD; Annerose Berndt, PhD; William J. Devan, BA; Valerie J. Valant, BA; Jinyi Wang, PhD;
Karen L. Furie, MD; Jonathan Rosand, MD; Natalia Rost, MD; Robert M. Friedlander, MD;
Beverly Paigen, PhD; Scott T. Weiss, MD .................................................................................. 3514

Matrix Metalloproteinase-12 Induces Blood–Brain Barrier Damage After Focal Cerebral Ischemia
Bharath Chelluboina, PhD; Jeffrey D. Klopfenstein, MD; David M. Pinson, PhD; David Z. Wang, DO;
Raghu Vemuganti, PhD; Krishna Kumar Veeravalli, PhD ........................................................................ 3523

Brief Reports

Prophylactic Antiepileptic Drug Use and Outcome in the Ethnic/Racial Variations of Intracerebral Hemorrhage Study
Kevin N. Sheth, MD; Sharyl R. Martini, MD, PhD; Charles J. Moomaw, PhD; Sebastian Koch, MD;
Mitchell S.V. Elkind, MD, MS; Gene Sung, MD, MPH; Steven J. Kittner, MD, MPH; Michael Frankel, MD;
Jonathan Rosand, MD, MSc; Carl D. Langefeld, PhD; Mary E. Comeau, MA; Salina P. Waddy, MD;
Jennifer Osborne, RN, BSN; Daniel Woo, MD, MS; for the ERICH Investigators ........................................ 3532

Endovascular Treatment for Acute Ischemic Stroke in the Setting of Anticoagulation
Letícia C. Rebello, MD; Diogo C. Haussen, MD; Samir Belagaje, MD; Aaron Anderson, MD;
Michael Frankel, MD; Raul G. Nogueira, MD ........................................................................ 3536

Time From Symptoms to Carotid Endarterectomy or Stenting and Perioperative Risk
James F. Meschia, MD; L. Nelson Hopkins, MD; Irfan Altafullah, MD; Lawrence R. Wechsler, MD;
Grant Stotts, MD; Nicole R. Gonzales, MD; Jenifer H. Voeks, PhD; George Howard, Dr PH;
Thomas G. Brott, MD ........................................................................ 3540
Coagulation and Fibrinolytic Activity of Tenecteplase and Alteplase in Acute Ischemic Stroke
Xuya Huang, MRCP; Fiona Catherine Moreton, MRCP; Dheeraj Kalladka, MRCP;
Bharath Kumar Cheripelli, MRCP; Rachael MacIsaac, PhD; R. Campbell Tait, MBChB; Keith W. Muir, MD

Montreal Cognitive Assessment: One Cutoff Never Fits All
Adrian Wong, PhD; Lorraine S.N. Law, BSocSc; Wenyan Liu, MD; Zhaolu Wang, MD; Eugene S.K. Lo, BSocSc;
Alexander Lau, MD; Lawrence K.S. Wong, MD; Vincent C.T. Mok, MD

Knowledge of Thrombolytic Therapy Amongst Hospital Staff: Preliminary Results and Treatment Implications
Lisa Mellon, PhD; Husain Hasan; Stuart Lee, MB; David Williams, PhD; Anne Hickey, PhD

Comments and Opinions
Left Atrial Appendage Function and Stroke Risk
Shadi Yaghi, MD; Christopher Song, MD; William A. Gray, MD; Karen L. Furie, MD, MPH;
Mitchell S.V. Elkind, MD, MS; Hooman Kamel

Topical Reviews
Stroke Disparities: Large Global Problem That Must Be Addressed
Lewis B. Morgenstern, MD; Brett M. Kissela, MD, MS

Global Stroke Belt: Geographic Variation in Stroke Burden Worldwide
Anthony S. Kim, MD, MAS; Elizabeth Cahill, MD; Natalie T. Cheng, MD

Nontraditional Risk Factors for Ischemic Stroke: An Update
Oh Young Bang, MD; Bruce Ovbiagele, MD; Jong S. Kim, MD

Stroke Literature Synopses: Basic Science
Ken Arai, PhD

Illustrative Teaching Cases
Cerebral Fat Embolism: A Case of Rapid-Onset Coma
Christina Mijalski, MD, MPH; Alexandra Lovett, MD; Rahul Mahajan, MD, PhD;
Sophia Sundararajan, MD, PhD; Scott Silverman, MD; Steven Feske, MD

Letters to the Editor
Daniel Bos, MD, PhD; Marleen de Bruijne, PhD; Aad van der Lugt, MD, PhD

Deepak Subedi, FRCR; Umme Sara Zishan, MBBS; Joanna Wardlaw, MD

Letter by Galyfos et al Regarding Article, “Periprocedural Myocardial Infarction After Carotid Endarterectomy and Stenting: Systematic Review and Meta-Analysis”
George Galyfos, MD, PhD; Fragiska Sigala, MD, PhD; Konstantinos Filis, MD, PhD

Response to Letter Regarding Article, “Periprocedural Myocardial Infarction After Carotid Endarterectomy and Stenting: Systematic Review and Meta-Analysis”
Marion Boulanger, MD; Emmanuel Touzé, PhD
Letter by Lahiri et al Regarding Article, “Endovascular Thrombectomy for Anterior Circulation Stroke: Systematic Review and Meta-Analysis”
Shouri Lahiri, MD; Miriam Nuño, PhD; Patrick D. Lyden, MD

Response to Letter Regarding Article, “Endovascular Thrombectomy for Anterior Circulation Stroke: Systematic Review and Meta-Analysis”
Charlene J. Ong, MD; Chester K. Yarbrough, MD, MPH; Colin P. Derdeyn, MD

Jose Gutierrez, MD, MPH; Mitchell S.V. Elkind, MD, MS; Randolph S. Marshall, MD, MS

Corrections

On the cover: The image is taken from an article in this issue, “Time-Dependent Computed Tomographic Perfusion Thresholds for Patients With Acute Ischemic Stroke” by d’Esterre et al (Stroke. 2015;46:3390–3397). The image is from Figure 3.