



Cover caption: Demonstration of pipeline placement in the carotid artery from the manuscript by Zhang *et al.*

Editor-in-Chief

Felipe C. Albuquerque

Deputy Editors

David Fiorella

Joshua Hirsch

Commissioning Editor

Michael Chen

Associate Editors

Jildaz Caroff

Reade De Leacy

Kyle Fargen

Jens Fiehler

Violiza Inoa

Akash Kansagra

Thabele Leslie-Mazwi

Michael Levitt

Mario Martinez-Galdamez

Justin Mascioli

James Milburn

Isil Saatci

Edgar Sarmaniego

Jai Shankar

Associate Editors, Basic Science

Matthew Gounis

David Steinman

Assistant Editors, Social Media

Dorothea Altschul

Matthew Amans

Andrew Ducruet

Matthew Fusco

Assistant Editors, Technical Videos

Peter Kan

Maxim Mokin

Editor Emeritus

Robert Tarr

SNIS Executive Director

Marie Williams Denslow

Editorial Office

Journal of NeuroInterventional Surgery BMJ

Publishing Group Ltd

BMA House

Tavistock Square

London, WC1H 9JR, UK

E: info.jnis@bmj.com

Guidelines for authors and reviewers

Full instructions are available online at <http://jnis.bmj.com/fora>. Articles must be submitted electronically <http://mc.manuscriptcentral.com/jnis>. Authors retain copyright but are required to grant JNIS an exclusive licence to publish <http://jnis.bmj.com/fora/licence.pdf>

ISSN: 1759-8478 (print)

ISSN: 1759-8486 (online)

Twitter: [@JNIS_BMJ](https://twitter.com/JNIS_BMJ)

Disclaimer: The Editor of *Journal of NeuroInterventional Surgery* has been granted editorial freedom and *Journal of NeuroInterventional Surgery* is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. *Journal of NeuroInterventional Surgery* is primarily intended for healthcare professionals and its content is for information only. The Journal is published without any guarantee as to its accuracy or completeness and any representations or warranties are expressly excluded to the fullest extent permitted by law. Readers are advised to independently verify any information on which they choose to rely. Acceptance of advertising by *Journal of NeuroInterventional Surgery* does not imply endorsement. Neither SNIS nor BMJ Publishing Group Limited shall have any liability for any loss, injury or damage howsoever arising from *Journal of NeuroInterventional Surgery* (except for liability which cannot be legally excluded).

Copyright: © 2023 Society of NeuroInterventional Surgery. All rights reserved; no part of this publication may be reproduced in any form without permission. *Journal of NeuroInterventional Surgery*, ISSN 1759-8478, BMA House, Tavistock Square, London WC1H 9JR, UK. The US annual subscription price is \$272. Airfreight and mailing in the USA by agent named World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Periodicals postage paid at Brooklyn, NY 11256. US Postmaster: Send address changes to *Journal of NeuroInterventional Surgery*, World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Subscription records are maintained at: BMJ, 12th Floor, Southgate House, Wood Street, Cardiff CF10 1GH, UK. Air Business Ltd is acting as our mailing agent.

Contents

Editor's column

- 99 *JNIS* spotlight: commissioned reviews
M Chen

Commentary

- 102 Brain aneurysm and parent vessel remodeling after flow diversion treatment: a proposed modification for Cekirge-Saatci classification (mCSC)
R A Hanel, G M Cortez, D K Lopes, I Saatci, H S Cekirge

Ischemic stroke

- 105 Sex differences in endovascular thrombectomy outcomes in large vessel occlusion: a propensity-matched analysis from the SELECT study
J T Fifi, T N Nguyen, S Song, A Sharrief, D K Pujara, F Shaker, L E Fournier, E M Jones, C G Lechtenberg, S J Slavin, N L Ifejika, M V Diaz, S Martin-Schild, J Schaafsma, J P Tsai, A W Alexandrov, S I Tjoumakaris, A Sarraj, on behalf of the SELECT Investigators

- 113 Influence of the interventionist's experience on outcomes of endovascular thrombectomy in acute ischemic stroke: results from the MR CLEAN Registry

S G H Olthuis, S J den Hartog, S M J van Kuijk, J Staals, F Benali, C van der Leij, D Beumer, G J Lycklama à Nijeholt, M Uyttenboogaart, J M Martens, P-J van Doormaal, J A Vos, B J Emmer, D W J Dippel, W H van Zwam, R J van Oostenbrugge, I R de Ridder, on behalf of the MR CLEAN Registry investigators

- 120 Successful reperfusion in relation to the number of passes: comparing outcomes of first pass expanded Treatment In Cerebral Ischemia (eTICI) 2B with multiple-pass eTICI 3
A A E Bruggeman, M Kappelhof, S J den Hartog, J F Burke, O A Berkhemer, A C G M van Es, W H van Zwam, D W J Dippel, J M Coutinho, H A Marquering, C B L M Majoie, B J Emmer, MR CLEAN Registry investigators

- 127 Combined balloon guide catheter, aspiration catheter, and stent retriever technique versus balloon guide catheter and stent retriever alone technique: a systematic review and meta-analysis
Y N Teo, C-H Sia, B Y Q Tan, J Mingxue, B Chan, V K Sharma, A Makmur, A Gopinathan, C Yang, S Loh, S Ng, S J Ong, H-L Teoh, R Rathakrishnan, T Andersson, F Arnberg, V K Gontu, T Lee, V Maus, L Meyer, P Bhogal, O Spooner, T YW Li, R YH Soh, L LL Yeo

- 133 Operator assessment versus core laboratory adjudication of recanalization following endovascular treatment of acute ischemic stroke: a systematic review and meta-analysis
M K Ibrahim, M A Shehata, S Ghozy, C Bilgin, M S Javal, D M Heiferman, R Kadivel, D F Kallmes

- 139 Impact of leukoaraiosis in patients with acute ischemic stroke treated with thrombectomy: a post hoc analysis of the DIRECT-MT trial
T Yi, Y Zhang, W Chen, Y Wu, D Lin, X Lin, L Zhang, P Xing, T Li, Y Zhang, S Wang, P Yang, M Cai, J Liu, On behalf of for the DIRECT-MT Investigators

- 146 Thrombus enhancement sign on CT angiography is associated with the first pass effect of stent retrievers
G He, J Deng, H Lu, L Wei, Y Zhao, Y Zhu, Y Li

- 153 Comparative analysis between 1-D, 2-D and 3-D carotid web quantification
C Perry da Camara, R G Nogueira, A R Al-Bayati, L Pisani, M Mohammaden, J W Allen, F Nahab, M Olive Gadea, M R Frankel, D C Haussen

Hemorrhagic stroke

- 157 How to perform intra-aneurysmal coil embolization after Pipeline deployment: a study from a hemodynamic viewpoint
M Zhang, Z Tian, Y Zhang, Y Zhang, K Wang, X Leng, X Yang, J Xiang, J Liu

New devices and techniques

- 163 Safety and efficacy of the eCLIPs bifurcation remodelling system for the treatment of wide necked bifurcation aneurysms: 1 year results from the European eCLIPs Safety, Feasibility, and Efficacy Study (EESIS)
J de Vries, R Aquarius, L Sørensen, H D Boogaarts, B Turowski, W H van Zwam, T R Marotta, R H M A Bartels

- 172 New concept in neurovascular navigation: technical description and preclinical experience with the Bendit 17 and Bendit 21 microcatheters in a rabbit aneurysm model
A Berenstein, O Cabiri, E Broussalis, C Hufnagel, M Killer-Oberpfalzer

MORE CONTENTS ►



This article has been chosen by the Editor to be of special interest or importance and is freely available online.



This article has been made freely available online under the BMJ Journals open access scheme.
See <http://authors.bmj.com/open-access/>



This journal is a member of and subscribes to the principles of the Committee on Publication Ethics
<http://publicationethics.org/>



When you have finished with this please recycle it

- 176** Delayed collapse of flow diverter due to acute severe vasospasm: another concern for flow diversion in ruptured aneurysms
A Kumar, N Choudhary, A Prabhakar, V Bhatia

- 178** Bioresorbable flow diverters for the treatment of intracranial aneurysms: review of current literature and future directions
A A Oliver, K D Carlson, C Bilgin, J L Arturo Larco, R Kadirvel, R J Guillory II, D Dragomir Daescu, D F Kallmes

Neuroimaging

- 183** Falsely normal CT perfusion ischemic core readings are common and often associated with deep infarcts
M Bouslama, K Ravindran, G M Rodrigues, L Pisani, D C Haussen, M R Frankel, R G Nogueira
- 188** Non-porous thrombi are less pervious and easier to be retrieved: implication from scanning electron microscopy study
Y He, J Xu, W Zhong, Z Chen, Y Zhou, J Li, Z Luo, M Lou

- 195** Machine learning and acute stroke imaging
S A Sheth, L Giancardo, M Colasurdo, V M Srinivasan, A Niktabe, P Kan

Basic science

- 200** Rupture risk prediction of cerebral aneurysms using a novel convolutional neural network-based deep learning model
H Yang, K-C Cho, J-J Kim, J H Kim, Y B Kim, J H Oh

Letters

- 205** Correspondence on "Delayed collapse of flow diverter due to acute severe vasospasm: another concern for flow diversion in ruptured aneurysms" by Kumar *et al*
F Mistretta, R Russo, S Molinaro, M Bergui
- 206** Response to: Correspondence on 'Delayed collapse of flow diverter due to acute severe vasospasm: another concern for flow diversion in ruptured aneurysms' by Kumar *et al*
A Kumar, N Choudhary, A Prabhakar, V Bhatia