



Cover caption: Illustration demonstrating the direct puncture and cannulation of the superior ophthalmic vein from the Standards article by Starke RM *et al.*

**Editor-in-Chief**  
Felipe C. Albuquerque

**Deputy Editors**  
David Fiorella  
Joshua Hirsch

**Commissioning Editor**  
Michael Chen

**Associate Editors**  
Alessandra Biondi  
Kyle Fargen  
Jens Fiehler  
Ashutosh Jadhav  
William Mack  
James Milburn  
J Mocco  
Gabor Toth  
Philip White

**Associate Editors, Basic Science**  
Matthew Gounis  
David Steinman

**Assistant Editors, Social Media**  
Dorothea Altschul  
Reade DeLeacy  
Andrew Ducruet  
Michael Levitt

**Assistant Editors, Technical Videos**  
Waleed Brinjikji  
Maxim Mokin

**Editor Emeritus**  
Robert Tarr

**SNIS Executive Director**  
Marie Williams

**Editorial Office**  
Journal of NeuroInterventional Surgery BMJ  
Publishing Group Ltd  
BMA House  
Tavistock Square  
London, WC1H 9JR, UK  
E: [info.jnis@bmj.com](mailto: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.dtl>

ISSN: 1759-8478 (print)  
ISSN: 1759-8486 (online)  
Twitter: @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:** © 2020 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 Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals Postage Paid at Jamaica NY 11431.

US Postmaster: Send address changes to *Journal of NeuroInterventional Surgery*, Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, 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.

**Editor's Column**

**725** Unpredictable times  
*F C Albuquerque*

**The Pandemic and Neurointervention**

**726** COVID-19 and neurointerventional service worldwide: a survey of the European Society of Minimally Invasive Neurological Therapy (ESMINT), the Society of NeuroInterventional Surgery (SNIS), the Sociedad Iberolatinoamericana de Neuroradiología Diagnostica y Terapeutica (SILAN), the Society of Vascular and Interventional Neurology (SVIN), and the World Federation of Interventional and Therapeutic Neuroradiology (WFITN)  
*J Fiehler, P Brouwer, C Diaz, J A Hirsch, Z Kulcsar, D Liebeskind, I Linfante, P Lylyk, W J Mack, J Milburn, R Nogueira, D B Orbach, J M M Pumar, M Tanaka, A Taylor*

**731** Commentary in response to 'Impact of the COVID-19 pandemic on the process and outcome of thrombectomy for acute ischemic stroke'  
*T M Leslie-Mazwi, R V Chandra, J A Hirsch*

**Standards**

**733** Transarterial and transvenous access for neurointerventional surgery: report of the SNIS Standards and Guidelines Committee  
*R M Starke, B Snelling, F Al-Mufti, C D Gandhi, S-K Lee, G Dabus, J F Fraser, On Behalf of the Society of NeuroInterventional Surgery*

**Ischemic Stroke**

**742** Effect of workflow metrics on clinical outcomes of low diffusion-weighted imaging Alberta Stroke Program Early Computed Tomography Score (DWI-ASPECTS) patients subjected to mechanical thrombectomy  
*P Panni, C Michelozzi, S Richard, G Marnat, R Blanc, A Consoli, M Mazighi, M Piotin, C Dargazanli, C Arquizane, I Sibon, R Anxionnat, G Hossu, R Bourcier, M Anadani, B Lapergue, B Gory*

**747** Patients with low Alberta Stroke Program Early CT Score (ASPECTS) but good collaterals benefit from endovascular recanalization  
*G Broocks, H Kniep, P Schramm, U Hanning, F Flottmann, T Faizy, M Schönfeld, L Meyer, G Schön, L Aulmann, B Machner, G Royl, J Fiehler, A Kemmling*

**753** Outcome of patients with large vessel occlusion stroke after first admission in telestroke spoke versus comprehensive stroke center  
*A-L Kaminsky, G Mione, Y Omorou, L Humbertjean, M Bonnerot, J C Lacour, N Riou-Comte, M Anadani, B Gory, S Richard*

**758** Safety and efficacy of an open-cell stent and double-balloon protection for unstable plaques: analysis of 184 consecutive carotid artery stentings  
*Y Funakoshi, H Imamura, S Tani, H Adachi, R Fukumitsu, T Sunohara, Y Omura, Y Matsui, N Sasaki, T Fukuda, R Akiyama, K Horiuchi, S Kajura, M Shigeyasu, K Iihara, N Sakai*

**763** Balloon anchoring technique for thrombectomy in hostile craniocervical arterial anatomy  
*V Sharashidze, R G Nogueira, A R Al-Bayati, J A Grossberg, D C Haussen*

**768** Neuroanatomy of the middle cerebral artery: implications for thrombectomy  
*M Shapiro, E Raz, E Nossek, B Chancellor, K Ishida, P K Nelson*

**Hemorrhagic Stroke**

**774** Twelve-year single critical care center experience of nicardipine prolonged-release implants in patients with subarachnoid hemorrhage: a propensity score matching analysis  
*Y Kuroi, H Ohbuchi, N Arai, Y Takahashi, S Hagiwara, A Sasahara, A Funaki, T Itoh, Y Sato, H Kasuya*

**777** Endovascular sacrifice of the proximal posterior inferior cerebellar artery for treatment of ruptured intracranial aneurysms  
*J G Malcolm, J A Grossberg, N G Laxpati, A Alawieh, F C Tong, C M Cawley, B M Howard*

**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 symbol represents commissioned articles.



Member since 2009  
JMO4656

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

- 783** Impact of fetal-type posterior cerebral artery on recanalization of posterior communicating artery aneurysms after coil embolization: matched-pair case-control study  
*H H Choi, Y D Cho, D H Yoo, H S Lee, S-H Kim, D Jang, S H Lee, W-S Cho, H-S Kang, J E Kim*

- 788** Update on cerebral hyperperfusion syndrome  
*Y-H Lin, H-M Liu*



### Noval Devices and Techniques

- 794** Removal of distal fragments of liquid embolic agents during arteriovenous malformation embolization using the TIGERTRIEVER 13: a technical report  
*F LY Ho, R Chapot*

- 798** Distal radial access in the anatomical snuffbox for neurointerventions: a feasibility, safety, and proof-of-concept study  
*A L Kühn, K de Macedo Rodrigues, J Singh, F Massari, A S Puri*

### Clinical Neurology

- 802** Morphological changes of intracranial pressure quantifies vasodilatory effect of verapamil to treat cerebral vasospasm  
*X Liu, J R Vitt, S W Hettis, K Gudelunas, N Ho, N Ko, X Hu*

- 809** Optical coherence tomography evaluation of vertebrobasilar artery stenosis: case series and literature review  
*X Xu, M Li, R Liu, Q Yin, X Shi, F Wang, J Gao, G Xu, R Ye, X Liu*

### Basic Science

- 814** Comparison of intra-aneurysmal flow modification using optical flow imaging to evaluate the performance of Evolve and Pipeline flow diverting stents  
*N M Cancelliere, P Nicholson, I Radovanovic, K M Mendes, E Orru, T Krings, V M Pereira*

- 818** Role of distal cerebral vasculature in vessel constriction after aneurysm treatment with flow diverter stents  
*A P Narata, F Moura, I Larrabide, R Chapot, C Cognard, A-C Januel, S Velasco, A Bouakaz, F Patat, A Marzo*

### Technical video

- 828** Intra-arterial chemotherapy for retinoblastoma: transradial and transfemoral approach  
*A Sweid, P Jabbour*