



**Editor**  
Matthew C Kiernan (Australia)

**Deputy Editors**  
Karen L Furie (USA)  
Satoshi Kuwabara (Japan)  
Lawrence Wong (China)

**Associate Editors**  
Alan Carson (UK)  
Nick Ward (UK)  
Peter Warnke (USA)

**Commissioning Editor**  
Martin Turner (UK)

**Web Editors**  
Clare Caldwell  
Arun Krishnan  
Cindy Lin  
Steve Vucic

**Podcast Editor**  
Colin Mahoney

**JNNP Blog Editors**  
Jose Manuel Matamala  
Thanuja Dharmadasa

**JNNP Facebook Editors**  
Cindy Lin  
William Huynh

**Editors, Practical Neurology**  
Geraint Fuller (UK)  
Phil Smith (UK)

**Editorial Office**  
*Journal of Neurology Neurosurgery & Psychiatry*

BMJ Publishing Group Ltd  
BMA House  
Tavistock Square  
London WC1H 9JR, UK

E: [jnnp@bmj.com](mailto:jnnp@bmj.com)  
Twitter: @JNNP\_BMJ  
ISSN: 0022-3050 (print)  
ISSN: 1468-330X (online)  
**Impact factor: 10.154**

**Disclaimer:** The Editor of *JNNP* has been granted editorial freedom and *JNNP* is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. *JNNP* 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 *JNNP* does not imply endorsement. BMJ Publishing Group Limited shall not be liable for any loss, injury or damage howsoever arising from *JNNP* (except for liability which cannot be legally excluded).

**Copyright:** © 2021 BMJ Publishing Group Ltd. All rights reserved; no part of this publication may be reproduced in any form without permission.

*JNNP* is published by BMJ Publishing Group Ltd, typeset by Exeter Premedia Services Private Ltd, Chennai, India and printed in the UK on acid-free paper from sustainable forests.

*Journal of Neurology Neurosurgery & Psychiatry* ISSN 0022-3050 (USPS 2156) is published monthly by BMJ Publishing Group Ltd, BMA House, Tavistock Square, WC1H 9JR London. 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 Neurology Neurosurgery & Psychiatry*, World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Subscription records are maintained at BMA House, Tavistock Square, WC1H 9JR London Air Business Ltd is acting as our mailing agent

## Contents

Volume 92 Issue 11 | JNNP November 2021

### Editorials

**1137** The cerebellum in ALS: friend or foe?  
*P-F Pradat*

**1138** Call for emergency action to limit global temperature increases, restore biodiversity and protect health

*L Atwoli, A H Baqui, T Benfield, R Bosurgi, F Godlee, S Hancocks, R Horton, L Laybourn-Langton, C A Monteiro, I Norman, K Patrick, N Praties, M GM O Rikkers, E J Rubin, P Sahni, R Smith, N J Talley, S Turale, D Vázquez*

**1141** Towards a better recognition of paraneoplastic brainstem encephalitis  
*F Graus*

**1142** Ischaemic stroke can follow COVID-19 vaccination but is much more common with COVID-19 infection itself  
*H S Markus*

**1143** Age and outcome after aneurysmal subarachnoid haemorrhage  
*R L Macdonald*

### Occasional essay

**1144** Considerations for causality assessment of neurological and neuropsychiatric complications of SARS-CoV-2 vaccines: from cerebral venous sinus thrombosis to functional neurological disorder  
*M Butler, A Tamborska, G K Wood, M Ellul, R H Thomas, I Galea, S Pett, B Singh, T Solomon, T A Pollak, B D Michael, T R Nicholson*

### Cerebrovascular disease

**1152** Novel selection paradigms for endovascular stroke treatment in the extended time window  
*M Bouslama, D C Haussen, G Rodrigues, C Barreira, M Frankel, R G Nogueira*

**1158** Long-term trajectories of decline in cognition and daily functioning before and after stroke  
*A Heshmatollah, L J Dommershuijsen, L Fani, P J Koudstaal, M A Ikeram, M K Ikeram*

**1164** Ischaemic stroke in anticoagulated patients with atrial fibrillation  
*C Stretz, T Y Wu, D Wilson, D J Seiffge, E E Smith, M E Gurol, S Yaghi*

### Neurosurgery

**1173** Visualisation of the non-linear correlation between age and poor outcome in patients with aneurysmal subarachnoid haemorrhage  
*F Ikawa, N Ichihara, M Uno, Y Shiokawa, K Toyoda, K Minematsu, S Kobayashi, S Yamaguchi, K Kurisu, On behalf of The Japanese Standard Stroke Registry Study Group*

### Neuro-inflammation

**1181** Paraneoplastic cochleovestibulopathy: clinical presentations, oncological and serological associations  
*M B Hammami, S D Z Eggers, A Madhavan, M J Montalvo, S J Pittock, D Dubey*

### Neurogenetics

**1186** Improving the efficacy of exome sequencing at a quaternary care referral centre: novel mutations, clinical presentations and diagnostic challenges in rare neurogenetic diseases  
*C Grunseich, N Sarkar, J Lu, M Owen, A Schindler, P A Calabresi, C J Sumner, R H Roda, V Chaudhry, T E Lloyd, T O Crawford, S H Subramony, S J Oh, P Richardson, K Tanji, J Y Kwan, K H Fischbeck, A Mankodi*

[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 chosen in conjunction with the BMJ Patient Forum to be of particular interest to patients 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/>



The article is part of the Impact Commentaries series



Member since 2008  
JM00010

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 magazine please recycle it.



The online version of this article contains multiple choice questions hosted on BMJ Learning.

## Neurodegeneration

- 1197** Genotype-associated cerebellar profiles in ALS: focal cerebellar pathology and cerebro-cerebellar connectivity alterations



*P Bede, R H Chipika, F Christidi, J C Hengeveld, E Karavasilis, G D Argyropoulos, J Lope, S Li Hi Shing, G Velonakis, L Dupuis, M A Doherty, A Vajda, R L McLaughlin, O Hardiman*

- 1206** Use of plasma biomarkers for AT(N) classification of neurodegenerative dementias

*D Alcolea, C Delaby, L Muñoz, S Torres, T Estellés, N Zhu, I Barroeta, M Carmona-Iragui, I Illán-Gala, M Á Santos-Santos, M Altuna, I Sala, M<sup>a</sup> B Sánchez-Saudinós, L Videla, S Valldeneu, A Subirana, J Pegueroles, C Hirtz, J Vialaret, S Lehmann, T K Karikari, N J Ashton, K Blennow, H Zetterberg, O Belbin, R Blesa, J Clarimón, J Fortea, A Lleó*

- 1215** Subjective cognitive complaints at age 70: associations with amyloid and mental health



*I M Pavisic, K Lu, S E Keuss, S-N James, C A Lane, T D Parker, A Keshavan, S M Buchanan, H Murray-Smith, D M Cash, W Coath, A Wong, N C Fox, S J Crutch, M Richards, J M Schott*

- 1222** Longitudinal changes of spinal cord grey and white matter following spinal cord injury



*G David, D Pfyffer, K Vallotton, N Pfender, A Thompson, N Weiskopf, S Mohammadi, A Curt, P Freund*

- 1231** Blood-based high sensitivity measurements of beta-amyloid and phosphorylated tau as biomarkers of Alzheimer's disease: a focused review on recent advances



*J R Chong, N J Ashton, T K Karikari, T Tanaka, M Schöll, H Zetterberg, K Blennow, C P Chen, M K.P Lai*

## Neurological picture

- 1242** Unusual pattern of bilateral cerebellar infarct and bihemispheric posterior-inferior cerebellar artery



*M Boukobza, J-P Laissy*

## PostScript

- 1244** Letters

