Contents

Volume 94 Issue 7 | JNNP July 2023

Editorial
499 Immersive medical virtual reality: still a novelty or already a necessity?
T Leescher, A M Barrett, M Billinghurst, B Lange

Multiple sclerosis
502 Spinal cord reserve in multiple sclerosis
J Sastre-Garriga, A Royeva, A Garrás-Vidal, P Carbonell-Mirabent, M Alberich, A Vidal-Jordana, C Auger, M Tirote, X Montañan, D Pareto

511 Multiple sclerosis mortality in New Zealand: a nationwide prospective study
R Leadbetter, M Mackay, D J Myall, B V Taylor, P Joshi, NZMSPS group, D F Mason

518 Gene–environment interactions increase the risk of paediatric-onset multiple sclerosis associated with household chemical exposures

526 Genetically determined serum serine level has a novel causal effect on multiple sclerosis risk and predicts disability progression

541 Plasma inflammation for predicting phenotypic conversion and clinical progression of autosomal dominant frontotemporal lobar degeneration

Molecules of senescent glial cells differentiate Alzheimer’s disease from ageing
I Dai, F Gao, Q Wang, X Lu, Z Cheng, Y Wu, X Chai, H Zetterberg, K Blennow, A L Levey, J Shi, Y Shen, On behalf of CANDI Consortium

Neuro-inflammation
560 Diagnostic value of intereye difference metrics for optic neuritis in aquaporin-4 antibody seropositive neumyelitis optica spectrum disorders

Neurodegeneration
532 Prognostic biomarkers in prodromal α-synucleinopathies: DAT binding and REM sleep without atonia
D Kunz, S Sato, J de Zeeuw, A Papadokonstantinou, S Dümchen, M Halberczik, M Pletsch, F Bes

550 Impact Commentaries series

Copyright: © 2023 BMJ Publishing Group Ltd. All rights reserved; no part of this publication may be reproduced in any form without permission.

Disclaimer: The Editor and 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 however arising from JNNP (except for liability which cannot be legally excluded).

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

Disclaimer: The Editor and 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 however arising from JNNP (except for liability which cannot be legally excluded).

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

Disclaimer: The Editor and 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 however arising from JNNP (except for liability which cannot be legally excluded).
## Contents

### Cerebrovascular disease

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>567</td>
<td>Long-term outcomes of moyamoya disease versus atherosclerosis-associated moyamoya vasculopathy using high-resolution MR vessel wall imaging</td>
</tr>
</tbody>
</table>

* M Lu, H Zhang, S Liu, D Liu, P Peng, F Hao, F Yuan, Y Liu, F Sheng, L Zhang, X Zhao, Y He, C Han, J Cai

### Neurosurgery

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>575</td>
<td>Adverse events associated with microsurgical treatment for ruptured intracerebral aneurysms: a prospective nationwide study on subarachnoid haemorrhage in Sweden</td>
</tr>
</tbody>
</table>


### Occasional essay

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>581</td>
<td>Isolated rapid eye movement sleep behaviour disorder: clinical and research implications</td>
</tr>
</tbody>
</table>

* A Stefani, C Trenkwalder, J Arnulf, D L Bloise, B F Boeve, Y Inoue, A Iranzo, S J G Lewis, F Provini, C Schenck, G K Wenning, Y Kwok Wing, B Hogl, A Vidovic

### PostScript

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>583</td>
<td>Letters</td>
</tr>
</tbody>
</table>

* [Downloaded from http://jnnp.bmj.com on June 23, 2023 by guest. Protected by copyright.](http://jnnp.bmj.com)