Is the central vein syndrome really helpful in differentiating MS from other white-matter disease - pro?

R. Zivadinov
Buffalo Neuroimaging Analysis Center, Department of Neurology, Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, State University of New York, Buffalo, USA
Center for Biomedical Imaging at Clinical Translational Science Institute, University at Buffalo, USA

While the magnetic resonance imaging (MRI) has played a crucial role for diagnosing and monitoring of patients with multiple sclerosis (MS), the current MRI criteria for MS diagnosis still have imperfect sensitivity and specificity, and erroneously diagnosed cases are commonly encountered. Therefore, more accurate and pathologically specific MRI criteria are still needed to exclude other disorders that can mimic MS. Recently, the North American Imaging in Multiple Sclerosis (NAIMS) Cooperative proposed the “central vein sign” (CVS) as a novel MRI biomarker to improve the accuracy and speed of MS diagnosis. The evidence supports that the presence of the CVS in individual lesions can accurately differentiate MS from other diseases that mimic MS. The NAIMS consensus statement aims to provide recommendations for the definition, standardization and evaluation of the CVS for the diagnosis of MS. However, many questions remain currently unanswered. The CVS predictive value for the development of clinical MS in patients with suspected demyelinating disease is still unknown. The lack of standardization for the definition and imaging of CVS currently limits its clinical implementation and validation. Large, prospective, multi-center trials including patients at first presentation of neurological signs are currently needed to evaluate the clinical value of the CVS for MS diagnosis. Until its diagnostic value has been formally established, care should be taken when using the CVS in routine clinical practice.