

Magnetic Resonance Of Myelination And Myelin Disorders Mri Of Myelination Myelin Disorders By Marjo S Van Der Knaap 2011 09 14

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Direct magnetic resonance detection of myelin and ...

Myelin water imaging is a magnetic resonance imaging method which can be used to visualize myelination in the brain and spinal cord in vivo.

Magnetic Resonance Imaging of Myelin | Request PDF

Magnetic resonance of myelin, myelination, and myelin disorders. [Marjo S van der Knaap; J Valk] -- This is the second, completely rewritten edition of the widely acclaimed book on MR of myelin, myelination and myelin disorders (1989).

A Myelin-Specific Contrast Agent for Magnetic Resonance ...

magnetic resonance imaging Abstract White matter myelination is essential to postnatal neurologic maturation and can be accurately evaluated by magnetic resonance imaging (MRI). Accordingly, MRI pulse sequences should be optimized for detection of myelin in young children. T1-weighted images are most useful during thefirst year of life.

Quantitative age-dependent differences in human brainstem ...

The following review summarizes the current state of myelin imaging using MR. We consider five MR techniques that have been used to study myelin: 1) conventional MR, 2) MR spectroscopy, 3) diffusion, 4) magnetization transfer, and 5) T2 relaxation.

Magnetic resonance imaging of myelin - Springer

Magnetic resonance imaging has previously demonstrated its potential for indirectly mapping myelin density, either by relaxometric detection of myelin water or magnetization transfer. Here, we investigated whether myelin can be detected and possibly quantified directly.

Direct magnetic resonance detection of myelin and ...

Myelination is one of the most fundamental biological processes in nervous system development that defines the vertebrate species. 1 Myelin sheaths provide a unique structure in the nervous system that fosters rapid and efficient conduction of impulses along axons. 2 Abnormalities or destruction of myelin occur in many acquired or inherited neurodegenerative diseases including multiple sclerosis (MS) and various leukodystrophies. 3 MS, which affects an estimated 350,000 people in the US and ...

Magnetic Resonance Of Myelination And

At the same time,however,much has changed. published or unpublished,making it possible for us to There has been immense progress in the technical present illustrations of nearly all known white matter possibilities of magnetic resonance and in the know- disorders.

Magnetic Resonance of Myelin Water: An in vivo ...

This progress prompted the editors of Magnetic Resonance of Myelination to create the third edition of this book. The editors have tried to cover most white matter disorders and to present a collection of images illustrating the field in an extensive fashion.

Magnetic Resonance of Myelin Water: An in vivo Marker for ...

Magnetic resonance spectroscopy has detected a strong lipid peak in acute lesions attributed to myelin breakdown product during demyelination. 166, 167, 168 Increases in Cho have also been seen in lesions 167, 168, 169, 170 and have been described to antedate lesion appearance on conventional MR. 171 Such increases in choline may be related to increased turnover of choline-containing myelin membrane phospholipids and cellular inflammation.

Magnetic Resonance of Myelination and Myelin Disorders ...

elin, but it is focally unmyelinated at loci, termed nodes of Ranvier; the myelinated region between adjacent nodes of Ranvier is referred to as an internode. Each oligodendrocyte can form multiple myelin internodes with multiple axons, and the number of internodes is regulated by axons.

Magnetic Resonance of Myelination and Myelin Disorders ...

Myelin water imaging is a magnetic resonance imaging method which can be used to visualize myelination in the brain and spinal cord in vivo. This review presents an overview of myelin water imaging data acquisition and analysis, post-mortem validation work, findings in both animal and human studies and a brief discussion about other MR techniques purported to provide in vivo myelin content.

Magnetic resonance imaging of myelin.

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(PDF) Magnetic Resonance of Myelin Water: An in vivo ...

Background and purpose: Myelin water imaging (MWI) is a magnetic resonance imaging technique that quantifies myelin in-vivo. Although MWI has been extensively applied to study myelin-related...

Assessment of Normal Myelination with Magnetic Resonance ...

Quantitative age-dependent differences in human brainstem myelination assessed using high-resolution magnetic resonance mapping Author links open overlay panel Mustapha Bouhrara a 1 Luis E. Cortina a 1 Abinand C. Rejimon a Nikkita Khattar a Christopher Bergeron a Janet Bergeron a Denise Melvin b Linda Zukley b Richard G. Spencer a

Magnetic Resonance Imaging of Myelin - ScienceDirect

Myelin water imaging is a magnetic resonance imaging method which can be used to visualize myelination in the brain and spinal cord in vivo. This review presents an overview of myelin water imaging data acquisition and analysis, post-mortem validation work, findings in both animal and human studies and a brief discussion about other MR techniques purported to provide in vivo myelin content.

Magnetic resonance of myelin, myelination, and myelin ...

Clinical magnetic resonance imaging of multiple sclerosis (MS) has focused on indirect imaging of myelin in white matter by detecting signal from protons in the water associated with myelin.

Magnetic resonance imaging of myelin using ultrashort Echo ...

Du YP, Chu R, Brown MS, et al. Quantitative multi-slice mapping of the myelin water fraction using multi-compartment analysis of T2* relaxation at 3T. 14th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Seattle, 2006:2104.