

Ultra-high-field MRI allows for earlier diagnosis of multiple sclerosis

May 4 2007

Ultra-high-field (7T) MRI can detect multiple sclerosis lesions better than MRI which can lead to possible earlier diagnosis and treatment, according to a new study by researchers from Ohio State University in Columbus, and Columbia University in New York.

For the study, the researchers analyzed post-mortem brain slices from a multiple sclerosis patient using both 3T and 7T MRI. 7T MRI made it possible to detect numerous multiple sclerosis lesions that were not detectable at 3T MRI, said Steffen Sammet, MD, PhD, lead author of the study.

"Multiple sclerosis is difficult to diagnose in its early stages," said Dr. Sammet. The greater sensitivity of 7T MRI for multiple sclerosis can delay disease conversion, and may lead to improved monitoring of neurological deficits in multiple sclerosis. MRI at 7T can give additional information about the lesion microstructure to help us better understand the disease," said Dr. Sammet.

"Ultra-high field strength has been an experimental methodology evolving over the last decade. In recent years, and especially as part of the OSU-based effort of the Wright Center of Innovation, we have been pushing, to evolve ultra-high field into a clinically capable imaging method. The significant advantage of higher field strength is the gain in signal that can be used in many different ways to increase sensitivity and increase the speed of acquisition or to increase resolution," said Dr. Sammet.

Source: American Roentgen Ray Society

Citation: Ultra-high-field MRI allows for earlier diagnosis of multiple sclerosis (2007, May 4)
retrieved 4 May 2024 from

<https://medicalxpress.com/news/2007-05-ultra-high-field-mri-earlier-diagnosis-multiple.html>

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