Corpus callosum atrophy - a simple predictor of multiple sclerosis progression: a longitudinal 9-year study.

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Source

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Abstract

Aim: To determine whether corpus callosum atrophy predicts future clinical deterioration in multiple sclerosis. Methods: In 39 multiple sclerosis patients the area of corpus callosum in the sagittal plane, T(2) and T(1) lesion volumes, brain parenchymal fraction and brain atrophy were determined at baseline and 1 year after treatment initiation. Non-parametric and multiple regression models were built to identify the most reliable predictors of disability and of its changes over 9 years. Results: Corpus callosum atrophy during the first year of treatment was the best predictor of disability (r = -0.56) and of its increase at 9 years (r = 0.65). Corpus callosum atrophy of at least 2% predicted increase in disability with 93% sensitivity and 73% specificity (odds ratio = 35). Conclusion: Corpus callosum atrophy is a simple and accurate predictor of future disability accumulation and is feasible for routine clinical practice.