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MAGNON - implementation and contribution of lublin criteria and quantitative mri-analysis for daily clinical routine of MS patients

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Introduction: Revised Lublin criteria, which provide a definition of remitting and progressing Multiple Sclerosis to classify disease activity of patients with Secondary Progressive Multiple Sclerosis (SPMS) as well as quantitative and standardized MRI analyses are only rarely used in clinical practice.

Aims: MAGNON aims to evaluate if standardized quantification of MRI data and assessment of MS patients based on the Lublin criteria provide benefits for neurologists working in day-to-day MS patient management.

Methods: Approximately 680 MRI scans of patients with SPMS or suspected SPMS have been provided by 50 centers in Germany. The analysis of standardized MRI data comprises a volumetric quantification of brain and thalamic volumes as well as T2-lesion-volume and number using a centralised automatic processing pipeline (Biometrica MS®, jung diagnostics GmbH). Percentage brain volume change is computed when follow-up scans are available. The value of standardized MRI analysis and the impact on patient assessment, including potential changes in Lublin classification, is evaluated.

Results: Interim analysis data show that for more than 45% of patients with suspected SPMS, already a single standardized MRI scan provided additional information that patients are transitioning to SPMS. According to the treating physicians, for about 30% of patients with suspected SPMS, the quantitative MRI further suggested a change in MS treatment. Within the following year, 18% of patients with suggested treatment change actually switched their therapies. Further findings with regards to the correlation of quantitative MRI parameters and clinical observations will be presented.

Conclusion: MAGNON interim results indicate that individual assessment of disease activity and progression of MS patients according to the Lublin criteria can be facilitated by routinely performed quantitative standardized MRI analyses, which can thus enhance individualized patient care.

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