Use of MRI to measure whole brain atrophy in MS Patients

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Magnetic resonance imaging is used for anatomical assessment of human brain structures in neurodegenerative disorders causing brain atrophy. It can be described in terms of change in the brain parenchymal fraction (BPF). In brain MRI, segmentation of brain tissues is an important step for numerical application. In this work we investigate the impact of segmentation method in SPM12 and additional segmentation in Computational Anatomy Toolbox (CAT12) for BPF determination. Dependence of brain atrophy on age of the studied patients and disease duration compared with healthy individuals is discussed.