Maastricht University

Visualizing Parkinson's disease brain signatures using advanced MRI techniques

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Stellingen behorende bij het proefschrift

Visualizing Parkinson's disease brain signatures using advanced MRI techniques

Amée Fleur Wolters

1. Alterations in default mode network connectivity play an important role in the pathophysiology of cognitive impairment in Parkinson's disease. *This thesis*

2. White matter tract alterations serve a more prominent role than grey matter changes in the early stages of cognitive impairment in Parkinson's disease. *This thesis*

3. Neuromelanin related signal intensity in the locus coeruleus holds significant promise as a diagnostic tool to distinguish Parkinson's disease patients from healthy controls. *This thesis*

4. Ultra-high-field magnetic resonance imaging enables the visualization of small brain stem nuclei that are important in the pathophysiology of Parkinson's disease. *This thesis*

5. A combination of different biomarker techniques offers superior diagnostic accuracy and monitoring capabilities for Parkinson's disease compared to a single imaging biomarker approach. *This thesis*

6. There should be increased focus on translating imaging techniques utilized in research settings into methods that can be effectively applied in clinical practice.

7. Studying non-motor symptoms of Parkinson's disease is as least as important as studying motor symptoms.

8. In MRI, we're essentially using the body's own atoms to take pictures of itself. *Richard Ehman*

9. In examining disease, we gain wisdom about anatomy, physiology and biology. In examining the person with the disease, we gain wisdom about life. *Oliver Sacks*

10. The brain is like a muscle. When it is in use, we feel very good. Understanding is joyous. *Carl Sagan*

11. Pressure is a privilege. *Billie Jean King*