What is the role of oligodendroglia in neurodegenerative disorders?

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White matter abnormalities and oligodendroglial changes are a common feature of neurodegenerative disorders, although their aetiology is poorly defined. A long-held assumption is that the white matter atrophy observed in neurodegenerative disorders is simply a secondary outcome of the progressive neuronal loss that manifests with advancing disease. This assumption has been difficult to examine on the molecular and microstructural levels directly in pre-symptomatic individuals prior to onset of neuronal loss, owing to the invasiveness of the techniques involved. In this talk, I will present our recent studies investigating the aetiology and consequences of white matter pathology in an animal model of Huntington disease, an dominant form of dementia. I will further discuss the implications of a better understanding of white matter pathology for the development of therapies for neurodegenerative diseases.