

Pain and neuroinflammation in Parkinson's disease

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Almost 24 years ago, Muhammad Ali, an incredible athlete in his day, lit the flame during the Opening Ceremony for the Olympic games in Atlanta. I am confident that everyone who has seen this video, remembers his tremor and slow movement, those are cardinal symptoms of the disease Ali suffered from. This disease is named Parkinson's disease (PD) and Muhammad Ali was arguably the most famous PD patient in the world.

Parkinson's disease is the second most common neurodegenerative disorder: a disease that affects the central nervous system –the brain and the spinal cord. PD was initially characterized as a motor disorder, affecting the ability of people to move. However, studies have since shown that it is actually a multisystem disorder with pathology in many regions of the brain. Patients experience both motor and non-motor symptoms. Pain is one of the most common non-motor signs of PD, poorly understood and inadequately treated by current analgesics.

Our research is focusing on the mechanisms underlying the pain in PD. Neuroinflammation – inflammation in the central nervous system (CNS)– is a characteristic of PD. Our aim is to answer the following question: is neuroinflammation and activation of non-neuronal cells – named microglia and astrocytes– involved in pain in PD? In order to address this question, we use rodent models of PD, which resemble several features of the disease. Moreover, our further goal is to investigate the potential of using novel anti-inflammatory drugs as a treatment of pain in PD.



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