Parkinson’s Disease – More than just tremors

Parkinson’s Disease (PD) is a progressive neurodegenerative disease which typically starts in the age of 50-70 years, but in 15% it starts even before 50. The main characteristics of PD are bradykinesia, tremors and rigidity. These symptoms appear due to the loss of dopaminergic neurons in the substantia nigra. As the disease progresses, the patient can lose most of their mobility as well as suffer multiple non-motor impairments, such as sleeping disorder, depression and weight loss. Per Odin, professor at the Department of Neurology, is currently looking into how the clinical approach to PD patients can be improved, especially for patients with late stage Parkinson, as well as how current PD treatments can be optimized to provide the best effect in PD patients.

Subcutaneous infusion of apomorphine, or intrajejunal infusion of levodopa/carbidopa intestinal gel (LCIG), are two pump-based alternatives for treating PD. Pump-based alternatives of treating PD have been available for almost two decades and have been superior to the oral treatments with L-dopa. Per Odin is looking into characterizing the effects of the pump-based treatments and if there’s a possibility to further enhance their effect and usability.

“Medical companies have tried to develop new drugs for PD, but progress has been slow. Therefor there’s a bigger focus on improving current methods for delivery of the medication and providing a more physiological administration of dopamine.”

In addition to investigating pump-based PD treatment options, Per Odin is also putting a lot of focus on improving the clinical care of PD patients, especially the patients with late stage PD. This group of PD patients suffer from great immobility which prevents them from accessing specialist care at hospitals and participating in clinical studies. With very little information on this group of patients it is difficult to know which symptoms they have and what type of treatment and assistance they need. There is currently an ongoing international project (Sweden involved) with a goal to try and characterize patients with late stage Parkinson’s and the medical care they need.

Apart from learning more about the late stage PD patients, Per Odin is also interested in improving the care of the non-motor symptoms. For a long time, PD was believed to be a disease which only affects the motor functions of the brain. Today it is known that PD also includes plenty of non-motor symptoms. Patients of PD can, apart from motoric complications, also suffer from a variation between dementia, sleeping disorders, mood changes and difficulties to urinate and defecate. Per Odin suggests that in order to improve the life quality of PD patients the non-motor symptoms must be addressed and put into highlight for both clinicians and researchers. The non-motor symptoms have to be identified in the patients in order to provide the additional treatments they require.

In conjunction with the medical care of PD patients Per Odin also wants to introduce palliative care in the field of chronic neurological disorders. In Sweden, palliative care is currently only focused in the field of cancer; a field which differs somewhat from chronic neurological disorders. The first goal would be to initiate clinical studies
investigating the possibility of introducing palliative care to chronic neurological disorders. From there, Per Odin suggests that palliative care could be included as a sub-specialty for clinical neurologists.

“When patients of chronic neurological disorders reach the most difficult stages of their sickness it’s almost as if you have to say farewell to them. I don’t see how that’s fair to the patient or their close relatives.”

Before his position at Lund University, Per Odin was stationed in Germany. Despite focusing his work more to Lund University, Per Odin is still active in the German research network of PD. Palliative care is currently expanding in Germany and Per Odin is positive Sweden could learn a lot, both in the clinics and in the research field of PD, by increasing the cooperation between researchers and clinicians in German Neuroscience.

What Per Odin would like to see in the future of research on PD is new treatments with the ability to either halt or stop the disease progression. The combination of this kind of treatment and stem cell therapy for brain reconstruction could be the next step in combatting PD.

- Joakim Hising