

information

INCIDENCE, PREVALENCE AND POSSIBLE CAUSES OF PARKINSON'S

Parkinson's is a progressive neurological condition which is characterised by both motor (movement) and non-motor symptoms.

Parkinson's was first described by Dr James Parkinson's in his Essay on the Shaking Palsy (1817). In this 66 page book Dr Parkinson described in detail the symptoms of six patients. His description of the motor symptoms remains accurate and unchallenged. The symptoms are described in Information Sheet - Parkinson's Symptoms.

Parkinson's is a global phenomenon being diagnosed in all cultures and is estimated to affect approximately four million people worldwide. It is the second most common progressive neurological condition, after dementia. The prevalence of Parkinson's is higher than that of many cancers, including breast, colorectal, stomach, liver and pancreatic cancer. It has been estimated that by 2040 the number of people with Parkinson's will exceed 12 million worldwide.

In Australia a recent unpublished study suggests that there are in excess of 100,000 people living with Parkinson's. It is also reported that on average 37 new cases are diagnosed on a daily basis. Parkinson's can affect anyone at any time. Well known identities diagnosed with Parkinson's include Michael J. Fox, Billy Connolly and Neil Diamond and it is slightly more common in males than females.

In approximately 95% of cases the cause is unknown – hence the term Idiopathic Parkinson's disease. However there are many theories about possible causative factors.

- Increasing age is undeniably linked to an increased risk of developing Parkinson's with prevalence increasing threefold after the age of 65. Although the condition is

age related it differs from the natural aging process. In spite of these figures 'young onset' Parkinson's describes those diagnosed between the ages of 21-50 and this accounts for approximately 18-20% of the Parkinson's population being of working age.

- Environmental issues have been associated with an increased risk for developing Parkinson's and a higher incidence can be found in rural areas-possibly associated with herbicides and chemicals. Numerous by products of industrialization including solvents and heavy metals have been linked with the rise in cases of Parkinson's.
- Genetic factors are now widely accepted as part of the causation of Parkinson's with approximately 15% of people with Parkinson's having a family history. More importantly in the past two decades many Parkinson's related genes and genetic mutations have been identified. A commonly held theory is that a genetic predisposition and exposure to a trigger factor (such as an environmental assault) may be a causative factor. Young onset Parkinson's is more likely to have a genetic association than the older age group.
- Oxidative stress has been linked to Parkinson's for many decades and in part this is due to the similarity of natural aging and the symptoms of Parkinson's being similar to an accelerated aging process. Oxidative processes are part of natural aging and occur at a mitochondrial, or cellular level. Free radicals are produced as part of this process and there are theories that they may be toxic to cells and the membranes of neurons.

In summary, there are many theories which are being continually researched. In addition the identification of Lewy Body pathology outside the brain adds another dimension to the research into alpha-synuclein and its misforming and aggregation into Lewy Bodies.

For further information contact
your state Parkinson's organisation:
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