

## **IS THE ETIOLOGY OF SPORADIC PD PREDOMINANTLY ENVIRONMENTAL OR GENETIC?**

**Heinz Reichmann**

*Department of Neurology, University of Dresden, Dresden, Germany*

During the last decade Braak and co-workers have established that PD is a spreading disease which may well start in the olfactory bulb (hyposmia), in the autonomic nervous system of the stomach and gut (constipation) before it rises to the brain. In addition most recent work has shown that the disease (Lewy bodies) occurs even in transplanted tissue in man which reflects the fact that the pathology crosses over from the original brain tissue to the transplanted. Our own group could duplicate these findings in mice which were treated with rotenone via a tubing system into the stomach/gut. While only 5-30% (depending on the country) of all PD patients show genetic abnormalities the others are still the majority. There are many examples for toxins and substances such as neuroleptics which cause PD symptoms. The most relevant toxins are carbon monoxide and manganese but also pesticides and herbicides cause symptomatic PD. It can be speculated that substance alike can enter the body of future PD patients via the nose are swallowed and start to bother the enteric nervous system of the gut and thereafter raising to the brain. It is also possible that PD needs a genetic predisposition on which environmental substances are set and the combination of both leads to PD