



The PSP Association's International Medical Workshop 7th July 2009

ABSTRACT

Title of Talk: PSP CLUSTERS: FROM FRENCH WEST INDIES TO NORTH FRANCE

Part 1: Speaker(s) details

Name	Dominique CAPARROS-LEFEBVRE; ¹ André DELACOURTE, ² Emmanuel MICHELIN, ³ Benoît CARRETTE; ¹ Marc MAGNAN; ¹ Andrew LEES ⁴
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Part 2: Abstract (Maximum 400 words) Please make your abstract easy to understand as it will appear on our website and will be read by people with PSP and their carers who are not scientists but who will want to understand your work and what it means for them.

In 1999, we described an unusually high frequency of atypical Parkinsonism on Guadeloupe, French West Indies (FWI). Levodopa unresponsiveness, early postural instability with falls, frontal lobe dysfunction and pseudo-bulbar palsy were common associated signs. During 7 years, we examined and followed-up 267 patients with degenerative parkinsonism. A third of all patients had probable progressive supranuclear palsy (PSP), while one half had unclassifiable Parkinsonism, some cases of which closely resembled PSP-Parkinsonism, as observed on Guam. A case-control study suggested the patients affected by PSP and unclassifiable parkinsonism had a significant higher consumption of annonaceae, including leaves used in traditional medicine, and fruits (soursop, sweetsop). The two main islands of FWI are Guadeloupe and Martinique, with similar population and way of life. We then decided to look at parkinsonism in Martinique, the second main island in French West Indies. Recently, pesticide contamination of banana fields has been demonstrated with high levels of chlordecone. On Guadeloupe, no link between chlordecone exposure and PSP or atypical parkinsonism has been observed. We included all consecutive patients who were referred to a neurologist (hospital or private practice) for parkinsonism during the last six months prior to the study. A detailed evaluation was carried on, using a standardized file, reporting on familial history, disease onset, tremor, rigidity, micrographia, hypophonia, search for pyramidal signs, spastic face, bulbar and pseudo-bulbar symptoms and postural balance or occurrence of falls. The place of living was also studied for all patients. Out of 47 patients with parkinsonism, 44 had a degenerative disorder. Nine patients had progressive supranuclear palsy (20.5%), 10 had unclassifiable parkinsonism (23%), and 20 had classical Parkinson's disease (45.5%). This preliminary study suggested the prevalence of PSP and unclassifiable parkinsonism is also higher in Martinique, than in Europe. The cluster of PSP on Guadeloupe and Martinique represents probably the same cluster. No link has been observed with the exposure to chlordecone, a pesticide used in banana fields, both in Guadeloupe and Martinique.

Since 2006, another cluster of PSP has been observed. Between 2006 and 2009, 46 patients with probable or possible PSP have been examined and followed up. Their place of living and working was close to a fallow factory, surrounding by soils heaps, contaminated by hexavalent chromium. The patients affected by PSP in this new cluster lived for at least 10 years in the east part of Roubaix, in Wattrelos, and Leers. The highest prevalence of PSP, up to 80 fold more than the usual prevalence of PSP in Europe, was observed in an area exposed to hexavalent chromium by dominant wind. Hexavalent chromium toxicity is related to its high oxidative power. Both air and rivers water are contaminated. The toxicity of hexavalent chromium for neurons is probable, but has not been related to clinical data. Hexavalent chromium also induces cancers, for which patients in U.S. got compensation, with the help of lawyers such as Erin Brockovich

¹ Unit of Neurology – Centre Hospitalier de WATTRELOS, France

² INSERM U837, LILLE France

³ Department of Radiology, CH Roubaix, France

⁴ University college of LONDON, UK

