PARKINSON'S UK, EDINBURGH BRANCH

NOTE OF MEETING OF RESEARCH INTEREST GROUP, SCOTTISH CENTRE FOR REGENERATIVE MEDICINE, LITTLE FRANCE CAMPUS, EDINBURGH, SATURDAY NOVEMBER 8, 2014, 10.30-12.30.

Our first meeting of this session gave us an opportunity to watch and listen together to a series of extracts from the World Parkinson Coalition's *WPC Scientific Update: Parkinson's Pipeline Umbrella* which had been made available online between 30 September and 2 October 2014[1]. Ken Bowler had viewed them all and had selected those topics likely to generate interest and discussion. Although we were sorry that some of our regular members were unable to attend, we welcomed some new faces, including Dr Gordon Duncan, recently appointed consultant physician at NHS Lothian, who played a very useful role in discussing some of the questions raised by the video presentations.

The first presentation was from **Dr Peter LeWitt**[2], who outlined recent progress in therapies with levodopa, looking at ways of improving the absorption of dopamine, the development of a prototype patch on the skin, and ways of obtaining a more rapid effect, or 'rescue therapy', through inhaling levodopa or delivering apomorphine in tablet form, to place under the tongue. He noted that consistency of effect has not been a high priority for those who fund research, and although clinical trials are proceeding, change in the clinics does not appear to be imminent.

Next, we watched **Professor David Burn**[3] present his work on delineating the early effects of dementia in Parkinson's patients, up to 80% of whom may suffer dementia at some stage. He noted that subtle defects in cognition, which may not be apparent in their day-to-day lives, are discernible early in around 40% of patients. Research was identifying markers of those likely to develop dementia, and seeking to predict the early onset of dementia, in order to target those who might be helped by early intervention. He identified the need for greater awareness of genetic profiles, researching those genes that affect the brain, and further evidence on how lifestyle modifications, such as diet, exercise and brain-

[1] Note that the webcasts remain available as on-line archive material at the web site http://www.worldpdcoalition.org/?page=2014Webcast

[2] **Peter LeWitt (USA)** directs the Parkinson's Disease and Movement Disorders Program at Henry Ford Hospital in West Bloomfield, and was appointed Professor of Neurology at Wayne State University School of Medicine in 1990.

[3] **David Burn (UK)** is Professor of Movement Disorder Neurology at Newcastle University and Honorary Consultant Neurologist for Newcastle upon Tyne Hospitals Foundation Trust.

training, may induce plasticity in the brain. Research is needed to highlight factors which induce resistance to dementia.

Depression, too, may develop before the motor symptoms become apparent, and many of those who were screened positively for depression were found not to be receiving treatment. Research was seeking to highlight predictors of response to depression treatment in order to target those who might benefit. In our discussion, we were encouraged to hear of the growing synergy and cross-fertilisation between Parkinson's and Alzheimer's research.

Our third presentation was from **Dr Jon Stoessl**[4] on personalised medication. His starting point was the fact that, by the time motor symptoms appear, brains may have lost 50% of the dopamine-producing cells and up to 80% of the dopamine content in the substantia nigra. Younger patients with Parkinson's may have greater dopamine deficiency before the symptoms appear, but the plasticity of their younger brains may allow them to engage other networks in the brain which are usually used for other purposes. He admitted that researchers do not yet fully understand the process, and that there may be genetic factors which enable some people to cope more easily with dopamine deficiency. He stressed the importance of exercise to protect the surviving neurons and increase the plasticity of the brain, and the value of social interaction and mental activity. Participation in clinical trials has proved to be beneficial as a form of engagement, even for those who receive placebo treatment.

Finally, at the request of the audience, we watched a presentation by **Dr Ronald Pfeiffer**[5], also on personalised treatment. He described how non-motor features need different treatment, and the importance of the age parameter, given the danger of drug interactions in older people and the possible psychological effects of some medication. He summed up the personalised treatment of Parkinson's as 'part science, part art, part economics', but urged that this should not discourage people with Parkinson's from asking for personalised treatments.

[4] **Jon Stoessl (Canada)** is Professor and Head of Neurology and Director of the Pacific Parkinson's Research Centre and National Parkinson Foundation Centre of Excellence at UBC and Vancouver Coastal Health

[5] **Ronald Pfeiffer (USA)** is Professor and Vice Chair of the Department of Neurology at the University of Tennessee Health Science Center in Memphis.

Future Meetings

The meeting closed with a reminder of the forthcoming meetings with speakers Julie Jones on January 24, and Dario Alessi, on February 28, as well as the Edinburgh Parkinson's Lecture from Patrick Brundin on April 22. Our sandwich lunch then gave us an opportunity for further discussion.