Neuro-ID 2012: Liverpool Neurological Infectious Diseases Course

Conference details: Thursday 17th and Friday 18th May, 2012, Liverpool, UK

Reviewed by: Dr Sarah Logan, an infectious diseases specialist registrar at Royal Free Foundation Trust, London, UK. MA (Cantab), MBBS, MRCP, Dip HIV med.

This was the sixth year that Professor Tom Solomon and others have organised this course in Liverpool and yet again all 110 places were sold out.

The delegates were predominantly UK based though some had come from as far as Australia, Africa and Asia, many of the UK trainees were currently working overseas. There was a pretty even split between those practising in infectious diseases and those in neurology with a few paediatricians and laboratory based infection specialists as well. The experience of the delegates was very varied; some were approaching the registrar grade whilst others had been consultants for some time. This must have made pitching the talks quite a challenge. As a final year trainee, on the whole it was just about right.

The two days were divided into numerous short talks around 20 to 40 minutes in length. The approach was very practical and often involved clinical scenarios which I found very helpful. The radiology of CNS infections by Dr Kumar Das stands out as one of the most useful talks from the first day. He took us through CT and MRI changes in neurological infection in a very comprehensive and interactive way. Dr Matt Scarborough talked about bacterial meningitis, his review of the need for imaging prior to lumbar puncture and evidence for adjunctive steroids I have referred back to on several occasions since.

We were also lucky enough to hear from Professor Scott Letendre from the University of San Diego, USA. He was the Chief Investigator on the CHA RTER study into HIV associated neurocognitive disease and he gave a very comprehensive review of the diagnosis and management of this. The talk on encephalitis from Professor Solom on and Dr Rachel Kneen was very informative. The day was followed by an evening of socialising and dinner in a local restaurant. This was great fun and a good way to catch up with colleagues.

One of the highlights from the Friday was undoubtedly Dr Guy Thwaites talking on TB meningitis. His landmark trial in Vietnam into adjunctive dexamethasone is well known and he took us through the clinical problems with diagnostics and managing this devastating illness which we are all seeing increasingly in the UK. Dr Nick Davies also talked on Friday on peripheral nervous system infections. This was a good talk and in some respects many of us would have liked a little more on lower motor neurone infectious problems.

Preceding the course there was a day of Brain Infections research updates. Those that attended found this a really interesting day and it incited much discussion on the days that followed. In future years this is going to be more integrated into the course.

I would definitely recommend this course to other trainees in neurology and infectious diseases. I have found myself referring back and using the principles I learnt several times over the last month. The pitch of some of the talks was perhaps not quite right for everyone but this is surely inevitable when there is such a variety of experience in the audience. With 110 delegates it was a great environment to ask questions and some of the really useful clinical tips came from these. I also enjoyed getting to know some of my neurology colleagues working in the same trust, spending two days discussing clinical problems away from the bleep has definitely enhanced our clinical interactions on our return to work!

If you are interested in attending next years course it is a good idea to register early.

www.liv.ac.uk/neuroidcourse
www.facebook.com/LiverpoolNeuroIDCourse

Many thanks to Dr Benedict Michael and the other members of the faculty for making the logistics of organising 110 people in a Grade two listed building, look incredibly easy.
Magstim Neuroscience Conference and Workshop 2012

Conference details: 12-13 May, 2012, Oxford, UK. Reviewed by: Dr Nick Davis, Postdoctoral Research Officer, School of Psychology, Bangor University.

The Magstim Conference and Workshop was held in the Examination Schools of Oxford University, on a sunny weekend in early summer. This is a good venue for the meeting, except for people who had been undergraduates at Oxford whose anxiety levels were rising as they stepped into the building where they sat their exams.

The meeting was sponsored by Magstim, a company that makes devices for non-invasive brain stimulation (http://www.magstim.com). However as in previous years the sponsors left the scientific organisation to an independent committee of researchers: Prof Vince Walsh (UCL), Dr Charlotte Stagg (Oxford) and Dr Sven Bestmann (UCL). These researchers are at the forefront of the development of brain stimulation as a tool for clinical and research applications, using both of the main methods of transcranial magnetic stimulation (TMS) and transcranial direct current stimulation (tDCS).

The constituency of the meeting is a wide array of clinical practitioners, physiologists and cognitive neuroscientists, who are positioned on a spectrum of engagement with brain stimulation from people who are developing the use of new forms of stimulation through to people who wish to use brain stimulation as a tool for aiding people with brain injuries. With such a wide field, the organisers of the meeting faced a difficult problem in providing a series of presentations that would appeal to the masses, while being detailed enough to engage the experts. As in previous years, they did so by dividing the presentations into themed sessions split across the two days of the meeting.

Day 1.

The first day opened with the usual housekeeping announcements, including the promise that the audience would be kept informed of any developments in the weekend’s decisive Premier League football matches. This freed the audience to concentrate on the talks.

The first session was entitled “Cognition” and the four speakers introduced topics where brain stimulation can help in understanding the processes that underlie functions such as perceiving faces (David Pitcher, NIMH) or suppressing ongoing actions (Michal Lavidor, Bar Ilan University; Adam Aron, UCSD). Paul Sauseng (University of Surrey) demonstrated the value of alternating current stimulation in modulating performance in a memory task.

In the second session, “Connectivity”, the speakers showed the range of scales at which brain stimulation can be useful. The first speaker (Robert Chen, University of Toronto) highlighted the complex interactions that occur between excitatory and inhibitory circuits within the human motor cortex. The next presentation (Matthew Rushworth, Oxford University) widened the scale to interactions between brain areas, with the possibility that frontal brain areas may tune the activity of early visual areas to enhance detection of specific stimuli. Joseph Galea (UCL) demonstrated the effect of stimulating the cerebellum on other brain areas. The cerebellum is somewhat neglected by brain stimulation researchers due to its relative inaccessibility, however novel methods such as tDCS or patterned TMS may help to establish causal involvement of the cerebellum in functions beyond its traditional motor role. The final speaker of the session (Jenny Crinion, UCL) widened the scope of the session to the use of tDCS to restore functional networks that have been damaged by brain injury. Her research demonstrated that anodal tDCS over Broca’s area can help in restoring speech in people rendered aphasic due to stroke.

Day 2.

The second day opened with the meeting’s keynote lecture from Mark George, Distinguished Professor of Psychiatry, Radiology and Neurosciences at the Medical University of South Carolina. Prof. George’s lecture focused on the use of daily application of TMS for treating depression. This is an area where brain stimulation has shown very promising results, with a projected figure of 12 people per day in the US showing remission from depression following TMS treatment. Prof. George used his own clinical experience to argue for more aggressive application of TMS in each patient, since higher daily doses are associated with a higher chance of remission.

Following the keynote lecture, Charlotte Stagg (Oxford University) introduced a session on “Plasticity and Change”. Yoshikazu Ugawa (Fukushima Medical University) showed how multi-pulse TMS can be used to change the excitability of the motor cortex, with the direction and extent of change depending on the temporal pattern of pulses, the experiments for which required chaining together up to eight Magstim TMS stimulators. By contrast Antonio Oliviero (SESCAM, Spain) followed this talk with a much simpler idea: holding a static magnet against the head. He showed that a static magnetic field can reduce motor cortex excitability, which is true whether the North or the South pole is held against the head. Finally Gabrielle Todd (University of South Australia) suggested ways to optimise the effect of TMS in inducing plasticity, with the important message that TMS effects are highly sensitive to parameters of the stimulation, such as stimulation intensity and temporal pattern, and to the state of the brain at the time of stimulation.

The final session of the meeting was introduced by Vince Walsh in a state of rising tension among the football fans; kickoff was due in the deciding match between Manchester United and Manchester City, with City needing the win to take the Premiership title from United. Fortunately the session on “Clinical Applications” lived up to its promise to engage the audience, with talks on the use of TMS in movement disorders (Mark Edwards, UCL) and emotional and cognitive disorders (Yuping Wang, Beijing; Ysbrand van der Werf, VU University Amsterdam). A final talk by Shirley Fecteau (Laval University) showed the potential of brain stimulation in treating addictive behaviour.

Conclusions

This was the sixth annual meeting on brain stimulation hosted by Magstim. In this time the meeting has become known for the high quality of its research presentations and for the relaxed feel of the poster sessions. Brain stimulation is a field where basic and applied research interacts fruitfully; this meeting has the feel of a place where things happen. We all left with notebooks full of new ideas. And City won with a last-minute goal.

ERRATUM

In the January/February 2011 issue of ACNR in the Speciality Certificate Examination in Neurology paper it was stated that “… If you fail the exam in 2011 you are eligible for a free second attempt in 2012. However from 2012, you will need to pay the full cost of the exam again to resit.” This information was wrong as the last year for a free second attempt was 2011 and not 2012. The authors apologise for any inconvenience caused.
The 8th International Congress on Mental Dysfunction and Other Non-Motor Features in Parkinson’s Disease and Related Disorders

Conference details: 3-6 May, 2012, Germany. Reviewed by: Dr Arsha Seddighi, Dr Prashanth Reddy, Stephanie Robinson, Alexandra Rizos

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A movement disorder seminar with a major focus on non-motor symptoms of Parkinson’s disease (PD), MDID 2012, took place in Berlin, Germany 3rd – 6th May 2012. With more than 800 participants from all over the world, attendance exceeded expectation. The opening session consisted of plenary lectures from organizers: Professors A Korczyn (cognition) and H Reichmann (pre-motor non motor features with a focus on gastrointestinal issues) along with Professor G Deuschl (President of Movement Disorders Society) and Professor E Wolters, (President of Parkinson’s and related disorders section of World Federation of Neurology). Subsequent plenary lectures also included the chairmen of the scientific committees, Professor K Ray Chaudhuri and Professor B Jenner along with state of the art lectures from Professors D Brooks, D Burn, N Giladi, F Stocchi, P Jenner, D Weissnau, J Duda and P Martinez Martin amongst others. The congress covered several industry sponsored symposiums, which covered important issues such as continuous drug delivery strategies and non motor symptoms of Parkinson’s (Professors Ray Chaudhuri, Odin, van Laar and Antonini), quality of life (Professors Rascol, DeFazio and Ray Chaudhuri), and pain (Professors Rascol, D Defazio and Ray Chaudhuri). In particular advantages and disadvantages of therapies such as apomorphine, intrajejunal levodopa infusion and non motor effects of deep brain stimulation (DBS) and non motor endpoints in clinical trials were discussed in detail (such as non-motor effects of rasagiline in the ADIAG study, rotigotine on sleep in RECOVER study, pramipexole and depression, and ropinirole on sleep by Professor Stocchi). Professor Jenon argued the importance of systemic studies into musculoskeletal problems in PD to address the high frequency of postural deformities and neglected pain.

In another plenary session, novel aspects such as the need for a new Non-Motor Staging of Parkinson’s was proposed by Professor Chaudhuri, who suggested a clinical translation of dopaminergic effect in terms of impulsive choice and compulsive gambling and imaging differences. Professor A Guehlt from Russia spoke about the economic burden of non-motor symptoms in PD and Dr Bergman covered the non-motor neural networks of the basal ganglia and how they respond to emotional stimuli.

In a DBS session Professors P Knack and V Kostic discussed the non motor effects of deep brain stimulation in Parkinson’s and discussions were also held by Dr M Samuel and Professor W Paulus among others.

Another session covered the important sleep symptoms of REM Sleep Behaviour Disorder (RBD) in PD organised by Professors W Oertel and R Postuma. The importance and usefulness of polysomnography (PSG) in the correct diagnosis of RBD was discussed by Dr Diederich. Minor changes of macro- and microstructure of sleep in the early stages of sleep will be more pronounced in the late stages of PD but common sleep dysfunction syndromes are not more frequent. RBD has the potential to cause serious injury as Dr. Singer mentioned and it can be the first sign of neurodegenerative disorders like synucleinopathies (>50% increased chance for PD). Due to the high risk factor of RBD leading to a neurodegenerative condition and its latency, it creates a window of opportunity for the neuroprotective agents which can be used in clinical trials. Professor Postuma explained early occurrence of dysautonomia in PD patients and its values as a predictor. The role of Diffusion Tensor Imaging (DTI) in detecting microstructural changes of brainstem, substantia nigra, and olfactory regions in idiopathic RBD based on Braak’s 2003 theory of ascending degeneration was discussed. Other important symposia included one led by care of the elderly colleagues and the British Geriatric Society from the UK highlighting non motor issues in Parkinson’s, presented over by Professor R Walker with lectures from Dr P Fletcher, Dr J Hindle and Dr R Genever. The session was widely attended and addressed often neglected topics related to palliative care, cognitive issues and the role of technologies in old age Parkinson’s.

A further symposium was dedicated to the role of therapies and included talks by Anne Martin (PD nurse specialist), Julia Johnson (speech and language therapist who focused on new devices to improve loudness of voice in Parkinson’s). Mariella Graziano, Manigita Makoutonina and F Adib spoke on physiotherapy and the role of occupational therapy in Parkinson’s respectively.

Several other sessions focused on the important issue of cognition, from mild cognitive impairment to dementia and scales for assessment (M Enr, J Rectorova, J Kullosevcky, R Brown, Z Pirtosek), autonomic dysfunctions (A Korczyn, E Hirsch), sleep disorders (C Trenkwalder, C Singer, A Krygowski) and oillation (R Pfeiffer, T Hummel). Professor A Storch argued that Parkinson’s is a neuropsychiatric disorder while Professor M Enre focused on mild cognitive impairment and Professor P Barone linked non motor symptoms as a whole with cognitive problems.

There were several poster presentations with prizes for the best 5 posters as well as oral communications from Dr Berg, A Antonini and M Onofri among others.

Satellite sessions covered diverse topics such as “Gilles De la Tourette (GDT) is more than tics!” which was put together by Drs Warbe, Cavana and Limousin. Anatomy and pathophysiology of Tourette syndrome (TS) was discussed based on a recent possible animal (monkey) model and the molecular basis of how abnormal movement behaviours were replicated after lesions to different parts of Globus Pallidus (GPI) and Striatum. Dr Cavan emphasized the importance of comorbid disorders, ADHD more than OCD and tics especially for treatment purposes. Only 12% of TS patients have no other recognised abnormality. New treatments for adult patients include partial dopamine agonists like aripiprazole. Dr. Limousin spoke of DBS insertion in severe cases, especially in the GPI when tics cause injury.

In another session, Professor K Bhattia, Dr S Schneider and Dr S Englelander discussed the important clinical molecular genetic aspects of neuronal brain iron accumulation syndromes.

The conference dinner was hosted at the historical ‘Zollpackhof’ and was attended by all faculty. The planned venue for the next “niche” meeting, highlighting non motor aspects of Parkinson’s, will be Seoul in South Korea in April 2013.

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