

# RCPE symposium – Neurology

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The Neurology symposium was held on 26 October 2017 at the Royal College of Physicians of Edinburgh

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This symposium brought together conditions relevant to neurology, care of the elderly, general medicine and general practice with an attending audience reflective of this. The emphasis was on evidenced-based medicine, with old and new therapies discussed.

## Session 1 – Neuro-otology and general neurology

Diego Kaski (London) began the morning's session with a practical review of dizziness. He explained the rationale behind the frequently asked (but infrequently understood) question of 'are you moving or is the world around you moving?' explaining that the latter indicated nystagmus and therefore dysfunction of the vestibular system

Differentiating central versus peripheral causes of vertigo is difficult and commonly required in acute care. The HINTS criteria<sup>1</sup> are highly sensitive for acute stroke; however, they can be difficult for non-specialists. A simplified version was therefore proposed encompassing the presence of new headache/neurological features, acute hearing loss, and normal head impulse test (i.e. BPPV excluded); experience by Dr Kaski's team suggests this is a more practical means of assessment.

Enquiring about associated symptoms and, critically, the duration of symptoms in dizziness was expanded by Patrick Speilmann (Dundee). Both speakers emphasised that the treatment of dizzy patients can be very rewarding; for example, 90% of patients with BPPV will be cured with  $\leq 2$  Epley manoeuvres.

Esther Sammler (Dundee) then progressed from the acutely

dizzy patient to other acute neurological presentations. Pregnant women and those in the postpartum period cause most neurologists anxiety and calls about headaches in this patient group are not uncommon; it is important to consider vascular imaging (in addition to CT/lumbar puncture) in such patients.

## Session 2 – Updates on new and emerging treatment concepts in neuro paediatrics and Parkinson's disease

Katherine Forrest (Southampton) emphasised that a search for a treatable mimic should be undertaken in children with cerebral palsy, particularly in children with progressive disorders or normal brain imaging (90% of children with cerebral palsy have an abnormal MRI).

Duchenne muscular dystrophy (DMD) and spinal muscular atrophy 1 (SMA1) are progressive, devastating conditions. Data from the first disease modifying treatments (Translarna in DMD and Nusinersin in SMA1) were presented; in DMD the declining stage was slowed<sup>2</sup> and a reduction in death/permanent ventilation in 47% (of 121 infants) was seen in SMA1.<sup>3</sup>

The Sydney Watson Smith Lecture was given by Professor Dario Alessi (Dundee). LRRK2 is one of the most frequently encountered causative genes in Parkinson's disease. LRRK2 encodes a kinase, which may be a possible target for future therapies. The study of LRRK2 and other genetic mutations in Parkinson's disease has led to the discovery that Rab proteins are common substrates for multiple genetic mutations. This raises the possibility that Rab biology is the key to understanding Parkinson's disease.

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### Session 3 – Sleep and intensive care medicine

The neurology of sleep was reviewed by Ian Morrison (Dundee). Disturbances of sleep are common with 30% of the population reporting a chronic sleep disturbance. Sleep is vital for normal functioning (particularly prefrontal functioning) with sleep deprivation associated with lapses in concentration and disinhibition. Ten percent of road traffic accidents are due to such consequences of sleep deprivation.

Simon Nagel (Heidelberg) focused on two common reasons for admission to neuro-ITU in Heidelberg: acute stroke and epilepsy. The mode of sedation for endovascular treatment in acute ischaemic stroke is uncertain – results from Heidelberg demonstrated no difference in outcome of conscious sedation versus general anaesthetic<sup>4</sup> (however, a meta-analysis is pending). Similarly there is no consensus on how to treat super refractory status – local experience of using isoflurane and CSF-air-exchange demonstrated transient benefit in individual cases.

Anthony Bateman (Edinburgh) reviewed long-term respiratory support in neuromuscular conditions. NIV improves survival in ALS and DMD. Secretions are a common cause of failure of NIV due to poor cough, with assisted coughing devices increasingly used (although yet to be approved by SIGN). The debate of radiologically versus endoscopically inserted gastrostomies was addressed; it is more important that a supportive team are involved with good peri-operative care rather than the type of procedure undertaken.

### Session 4 – Neurological complications of viral infections

Hugh Willison (Glasgow) presented data from the Zika-Guillain-Barre syndrome (GBS) outbreak. The time to onset of symptoms in Zika-GBS is shorter than normally seen in GBS, raising the possibility that symptoms are due to direct infection of the peripheral nervous system. Clinical and investigation features, however, are most suggestive of an immune basis (similar to other cases of GBS) and glycolipid arrays are weakly supportive; however, the pathophysiology currently remains unanswered. Due to continued spread of Zika, surveillance remains important.

Lastly, Peter Kennedy (Glasgow) reviewed sleeping sickness, a rare but devastating illness spread by the tsetse fly. Vaccination is not possible due to antigenic variation and therefore early treatment remains the only management. Early detection is difficult due to a lack of fully reliable diagnostic criteria and misdiagnosis can lead to significant treatment side-effect, including an 8% mortality. A new medication with an improved side-effect profile is currently under investigation by Professor Kennedy's lab, with very promising initial results.

### Take home message

The often quoted 'there can be few physicians so dedicated to their art that they do not experience a slight decline in spirits on learning that their patient's complaint is dizziness'<sup>5</sup> was challenged here; this symposium has armed us with the ability to differentiate causes and provided an enthusiasm for treatment of the commonest cause of dizziness.

Treatment options in neurology have lagged behind other specialities. However, the first treatments for terminal neuro paediatric conditions and the potential therapeutic routes for Parkinson's disease highlighted during this symposium make this an exciting therapeutic era for neurology.

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