RCPE symposium – Neurology

T Soane[1]

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Correspondence to:
T Soane
Department of Clinical Neurosciences
Western General Hospital
Edinburgh EH4 2XU
UK

Email:
tsoane@nhs.net

Introduction

Neurology is often perceived as the study of rare conditions with little in the way of treatment. This symposium dispelled that myth with discussion of two extremely common neurological disorders, stroke and epilepsy, and their evolving treatment options. This was followed by sessions providing practical help in the increasingly encountered incidental imaging findings, common symptoms in the absence of disease, and neuro-ophthalmological conditions secondary to obesity.

Session 1 – New therapies and old controversies in acute stroke

Professor Keith Muir (University of Glasgow) discussed extending the scope of acute stroke treatment and tailoring the right treatment to the right patient. This included evidence on when to use perfusion scans and CT angiography, as well as modifying the dose of rTPA, using alternative thrombolytics, and the benefits of thrombectomy.[1] The importance of service provision was also illustrated, comparing the simpler and more effective model in London with the less effective and more complex model in Manchester stroke services. This will be of great importance when thrombectomy service plans are drawn up.

Dr William Whiteley (University of Edinburgh) presented a systematic way to approach the aetiology of ischaemic stroke, before focusing on how to investigate the underlying cause of cryptogenic stroke that currently comprise 35–40% of all strokes. Evidence that cryptogenic stroke is cardioembolic is supported by an increased incidence of brief atrial fibrillation in cryptogenic stroke, and a net benefit in the use of warfarin over antiplatelet in 'non-cardioembolic' stroke secondary prevention. Three trials are currently investigating NOAC vs antiplatelets in cryptogenic stroke.

Session 2 – The way forward for epilepsy and late trauma

Professor Tony Marsden (University of Liverpool) demonstrated the need for a paradigm shift in antiepileptic medication development to treat a condition with a prevalence of 0.5–1%, where 30–40% are treatment refractory. The evidence for newer antiepileptics often lags considerably behind their use. Levetiracetam is widely used for generalised epilepsy treatment, yet until SANADII is published we don't know for certain if its first line use is justified.

Dr Russell Hewett (University of Glasgow) discussed the management of first seizures, integrating various studies to provide risk stratification for subsequent seizures. Ultimately, in most situations, the decision to treat will be rely heavily on patient preference, as the MESS study shows outcomes at 24 months are similar whether the initial seizure is treated or not. Currently clinicians may feel pushed towards early treatment based on the recently updated ILAE definition of epilepsy,[2] which can now be made after one seizure, as well as concerns about SUDEP. An interactive vote taken on a case of first seizure with no risk factors showed that before the presentation, 57% of the audience voted not to treat, and after the presentation 81% elected not to treat.

Professor Jonathan Cavanagh (University of Glasgow) demonstrated the disappearing line between psychiatry and neurology by exploring the molecular basis of psychiatric conditions, in particular the role of systemic inflammatory mediators in depression. The global burden of suffering caused by both neurological and psychiatric diseases, and their shared organ and biological pathways makes distinguishing neurology from psychiatry merely a distraction.

[1]Neurology Registrar, Department of Clinical Neurosciences, Western General Hospital, Edinburgh, UK

Session 3 – Shades of grey: differentiating abnormal from normal

Dr Kirsten Forbes (University of Glasgow) considered what imaging findings were helpful in distinguishing white matter changes signifying disease over incidental findings. White matter lesions increase with age, and are presumed due to small vessel ischaemia, although the degree of small vessel disease seen does not generally correlate well with any clinical phenotype or outcome, until the extreme end. The LADIS study showed patients with Fazekas grade 3 leukoaraiosis had a 25% chance of becoming disabled at 1 year. White matter changes are overwhelmingly due to small vessel disease, but other aetiologies are diverse and include multiple sclerosis, acute disseminated encephalomyelitis, vasculitis, migraine, HIV, B12 deficiency, radiotherapy, and even 'normal for age'. The clinical situation as well as imaging clues are key to correct interpretation.

This topic was continued by Dr Jonathan O'Riordan (NHS Tayside) who presented features of white matter lesions that would make him favour demyelination suggestive of multiple sclerosis, and how he would follow them up even in the absence of clinical features. In the past it may have been excusable not to follow patients up, but the efficacy of current disease modifying therapies means that it is probably desirable to treat patients earlier.

Dr Richard Davenport (NHS Lothian) identified that a neurologist seeing patients with symptoms in the absence of neurological disease was potentially a waste of resources, as well as leading to over investigating of patients and over medicalising what may be common, everyday symptoms.[3] These patients are distinct from patients with functional neurological disorders though, where a neurologist's skills in correctly diagnosing and treating are required.

Session 4 – Hitting the heights: diagnosis, treatment and prevention of obesity-related neurological conditions

The final session covered idiopathic intracranial hypertension (IIH), a condition where patients have an average BMI of 38, and where weight loss remains the only disease modifying treatment. Dr Alexandra Sinclair (University of Birmingham) discussed the Dandy 2013 diagnostic criteria for IIH, and how 40% of patients referred to a tertiary neuro-ophthalmology centre with a diagnosis of IIH do not meet criteria because of poor recognition of papilloedema.[4] While the diagnosis of IIH requires a lumbar puncture opening pressure over 25 cmCSF, opening pressure follows a normal distribution, and so elevated pressure and normal imaging does not necessarily equal a diagnosis of IIH, and may be normal for the patient in the range 25–30 cmCSF. Elevated CSF pressure in the absence of papilloedema can sometimes lead to the even more contentious diagnosis of IIHWOP (IIH without papilloedema), but the Freidman 2013 criteria dictate the need for other markers of raised pressure such as a sixth nerve palsy.

Mr Michael Burden (Queen Elizabeth Hospital, Birmingham) focused on the complications of mismanagement of IIH, and how important it is to tie in the disc appearance with the patient's visual fields, and visual symptoms. There is now good evidence for weight loss management of both visual problems and headache. The evidence for surgical treatment (either lumboperitoneal or ventriculoperitoneal shunting, or optic nerve fenestration) is only protective of eyesight, not necessarily effective for headache, and has frequent complications. The acetazolamide treatment trial showed only modest benefit in patients with mild visual loss at 4 g per day, far in excess of what is usually tolerated by patients or prescribed by doctors.

Professor Christopher Oliver (University of Edinburgh) gave the Sir Alexander Morrison lecture on the benefits of physical activity, entering the auditorium on a Brompton bicycle. Much evidence exists for the benefits in life expectancy, mental health, and reduced chronic diseases. Despite this, physical activity continues to decline in the UK.[5] UK Government interventions intended to increase activity, for instance by active travel, have fallen short of what is required, with only minimal increases in cycle commuting over the last decade. In the Netherlands, the health benefits of cycling are estimated to correspond to 3% of their GDP, by preventing 6,500 deaths per year.

Take home message

Treatments for neurological conditions such as stroke and epilepsy continue to advance, with thrombectomy likely to prove the next service provision challenge. Advances in neuroimaging as well as patient expectation mean that we need to develop successful strategies for dealing with or avoiding incidental findings. Finally, as the incidence of IIH is likely to increase as the population becomes more obese, it is important that neurologists and ophthalmologists work together to ensure diagnosis is accurate and management appropriate.

References

1 Goyal M, Menon BK, van Zwam WH et al. Endovascular thrombectomy after large-vessel ischaemic stroke: a meta-analysis of individual patient data from five randomised trials. *Lancet* 2016; 387: 1723–31.

2 Fisher RS, Acevedo C, Arzimanoglou A et al. ILAE official report: a practical clinical definition of epilepsy. *Epilepsia* 2014; 55: 475–82.

3 McCaffrey RJ, O'Bryant SE, Bauer L et al. *Practitioner's Guide to Symptom Base Rates in the General Population*. New York: Springer; 2006.

4 Fisayo A, Bruce BB, Newman NJ et al. Overdiagnosis of idiopathic intracranial hypertension. *Neurology* 2016; 86: 341–50.

5 Department of Health. *Start Active, Stay Active*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/216370/dh_128210.pdf