

Neurology

A symposium held on 16 November 2011 at the Royal College of Physicians of Edinburgh

A VIDEO TOUR OF COMMONLY ENCOUNTERED MOVEMENT DISORDERS

Dr Monty Silverdale, Consultant Neurologist, Greater Manchester Neuroscience Centre, UK

This presentation will consist almost entirely of videos illustrating different Movement Disorders. I hope the participants will be able to better recognise common Movement Disorders after seeing the videos. I will present videos of Parkinson's disease illustrating the important clinical signs. I will also present videos of hyperkinetic Movement Disorders including dystonia, chorea, myoclonus, tics and tremor. I will illustrate the important clinical features of all these Movement Disorders which help us to classify them. Classifying Movement Disorders properly is vital in order to guide investigation and treatment.

EVIDENCE BASED TREATMENT OF PARKINSON'S DISEASE

Professor David J Burn, Professor of Movement Disorders Neurology and Honorary Consultant Neurologist, Newcastle University, UK

This lecture will consider the prognosis of Parkinson's disease (PD), and look at recent data on standardised mortality ratios. Factors contributing to a higher SMR will be discussed, as will other clinical indicators at presentation that may be of sinister portent. These will be aimed primarily at the clinician and will draw from recent studies in this area.

The bulk of the lecture will discuss the medical management of PD, drawing upon recommendations made by the SIGN Guidelines, but also considering management from a pragmatic basis, where no clear evidence base exists. Finally, new trial data will be highlighted together with future challenges in the management of the condition.

ALL THAT SHAKES IS NOT EPILEPSY

Dr Yvonne Hart, Consultant Neurologist, Royal Victoria Infirmary, Newcastle-upon-Tyne, UK

Epileptic seizures are often thought by the lay public to consist exclusively of convulsions (tonic clonic seizures), and shaking episodes of various types are commonly seen in the 'First Seizure clinic'. Syncope is probably the most common misdiagnosis: multifocal myoclonic jerks

are frequently seen in the course of fainting attacks, and may be accompanied by other features commonly associated with seizures, including eye rolling and automatisms (Lempert et al, 1994). The presence of a trigger factor, the nature of the jerking movements, short duration of ictus, and lack of post-ictal confusion suggest the correct diagnosis. Recovery may be prolonged if head injury associated with the syncope causes a concussive convulsion, or if the patient is maintained in the upright position following syncope.

Psychogenic non-epileptic seizures (PNES) are also commonly seen in the epilepsy clinic, and may be difficult to distinguish from epileptic seizures, particularly frontal lobe seizures (Lesser, 1996). There is no single distinguishing factor, and both may involve injury and incontinence. PNES are commonly described as involving flailing or thrashing movements, a longer duration of attacks, pelvic thrusting, and crying or screaming. Consciousness may be partially preserved.

Sleep phenomena may also be confused with seizures, particularly frontal lobe seizures. REM sleep behaviour disorders may be associated with violent limb movements and with aggression, while periodic limb movements of sleep are characterised by intermittent rhythmic movements of the limbs, particularly the legs. Autoimmune conditions can be associated both with movement disorders and with seizures, the latter sometimes having a distinctive appearance, as in the case of faciobrachial dystonic seizures associated with anti-voltage gated potassium channel antibodies. Whatever the nature of the attacks, the history is crucial in making the diagnosis, with investigations usually playing a secondary role.

References

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SEIZURE SEMIOLOGY – OLD HAT OR STILL IMPORTANT?

Dr Beate Diehl, Clinical Lecturer and Honorary Consultant Clinical Neurophysiologist, National Hospital for Neurology and Neurosurgery, London, UK

Epilepsy is a clinical diagnosis, which relies heavily on detailed history and account of the seizure semiology (from Greek *sēmeion* = sign). The diagnosis can be supported by a number of investigations (EEG, MRI), defining a patient's epilepsy syndrome. The types of seizures a patient experiences have a large impact on quality of life and are also important considerations for best medical management. In addition, the subjective seizure symptoms and the objective signs give important clues on the cortical areas involved. Unfortunately, despite optimised medical treatment, one-third of all focal epilepsies remain intractable, and treatment alternatives, particularly epilepsy surgery need to be explored. In refractory temporal lobe epilepsy, Class I evidence has identified surgical treatment superior to continued medical treatment.

Before the advent of EEG, clinical examination and careful observation of the seizure semiology have been the only methods to determine where seizures may be arising from. It is important to note that the cortical areas generating the signs during the seizures (the symptomatogenic zone) is not identical to the cortical area where the ictal discharges start (ictal onset zone), as clinical signs may only arise following spread and recruitment of larger cortical areas.

The epileptogenic zone refers to the area of cortex indispensable for generating the seizures; when removed in its entirety, the patient becomes seizure free. With his work in the mid 19th century, Hughlings Jackson pioneered the concept that the symptomatogenic zone is a useful approximation of the epileptogenic zone, and soon the first epilepsy surgery took place.

Using a series of cases I will illustrate how in the era of modern neuroimaging, electrical and magnetic source imaging careful attention to seizure semiology can add crucial information to localise the epileptogenic zone. We will also appraise limitations of such an approach and highlight that the concordance of investigations is what matters.

THE KEY TO DILEMMAS IN DIZZINESS

Professor Linda Luxon, Professor Emeritus of Audiovestibular Medicine University of London and Consultant Neuro-otologist, National Hospital for Neurology and Neurosurgery London, UK

Man has developed a very sophisticated mechanism for maintaining balance which relies upon vestibular, visual and somatosensory/proprioceptive inputs, which are integrated in the central nervous system and allow a range of outputs including perception, eye movement control, posture and movement control, autonomic interactions and cognitive effects. Not surprisingly, given the complexity of this system, perfect balance may be impaired by pathology in a range of different systems. The mechanisms, which may generate vertigo and imbalance will be outlined and an overview of the medical, neurological and otological disorders which may result in these symptoms will be considered. The basic physiology underlying balance will be briefly reviewed together with the effects of a sudden loss of vestibular tonus and the importance of the compensatory mechanisms, which allow symptomatic recovery. The common causes of the failure of compensation will be highlighted. The relevance of a clear understanding of pathophysiology in defining an accurate diagnosis and management of disorders of balance will be emphasized.

REFERRAL MANAGEMENT STRATEGIES IN SECONDARY CARE

Dr Nicholas A Fletcher, Consultant Neurologist and Clinical Director (Neurology), Walton Centre NHS Foundation Trust, Liverpool

This talk discusses the rise in neurology referrals to a regional neurological centre in Liverpool serving a population of 3.5 million, from 2007 to date. The possible reasons for this are discussed. A demand management initiative was developed in collaboration with 24 PCTs and the NW specialist commissioning team (NWSCT) – this was started in October 2010. The difficulties in developing the scheme are discussed along with the details of the intervention and uptake of this among consultant neurologists. To date, there has been no discernible effect on referral rates – the growth in which appears to have been slowing since before the start of this initiative.

WHAT FACTORS INFLUENCE GP REFERRAL PATTERNS?

Dr David P B Watson, General Practitioner, Hamilton Medical Group, Aberdeen, UK

The rate of GP referrals to secondary care clinics is a very topical subject against the projected efficiency savings of around £20 billion between 2011–14 for the NHS in England and £1.3 billion for the NHS in Scotland in 2011/12. GP referral decision making is a complicated process with no right or wrong approach. There is a perception that GPs who are high referrers make 'inappropriate' referrals. However deciding what is 'appropriate' is complex and should be guided by outcome studies. These studies have not been done. Most studies look at retrospective case analysis. These studies conclude that the vast majority (70–90%) of referrals are appropriate. It has been suggested that the real cost to the NHS is not the small number of inappropriate referrals but the patients referred late or not at all.

Patient factors such as age, sex and deprivation score account for less than 40% of the variation in referral rates. GP factors count for less than 10% of the variation. Factors such as age, years of experience or RCGP membership make no difference. High referrers perceive greater pressure from patients to refer and are less tolerant of uncertainty in their decision making. Consultation time constraints and a 'need to do something' may increase referral rate. Passive dissemination of guidelines is not an effective quality improvement tool and strict adherence to referral guidelines results in an increase in absolute number of referrals. The two interventions that have been shown to lead to more 'appropriate' referrals are local guideline implementation with specialist education sessions and the use of referral proformas. Proformas have to be easily accessible and proforma overload may cause GP fatigue resulting in non-adherence.

Empowering GPs with access to investigations can reduce referral rates. Open access CT scanning in Tayside and Glasgow reduced headache referrals by 86%.

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