

# Abstracts: 46th St Andrew's Day Festival symposium: updates on acute and internal medicine

**ABBREVIATIONS** Computerised tomography (CT), intensive therapy unit (ITU), sub-arachnoid haemorrhage (SAH), cerebrospinal fluid (CSF), British Thoracic Society (BTS), electrocardiogram (ECG), Faculty Research Interests Science Comparator (FRISC)

## DAY I

### SESSION I

Chair: Dr M Strachan, Consultant Physician, Western General Hospital, Edinburgh

#### *Syncope, seizures and pseudoseizures*

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#### *Abstract*

**Background** The differential diagnosis of epileptic seizure is wide, but when a patient presents with an attack disorder, the most common distinctions that need to be made are between vasovagal syncope and seizures, and between epileptic seizures and pseudoseizures.

**Methods or Theme** Factors in the background of the patient can help determine why a patient has a particular disorder: for example, a past head injury may be a cause for epilepsy. However, they are less useful in the diagnosis itself, and may even mislead. Eliciting a history of triggers for attacks is crucial in making a diagnosis of vasovagal syncope, as is eliciting a history of a typical syncopal prodrome. Cardiac syncope uncommonly presents as epilepsy, but attacks triggered by exercise should ring cardiac alarm bells. In the distinction between seizure and pseudoseizure, accurate history from the patient of their experience of the attack, and from the eyewitness are crucial, and in particular, accurate description of movements during the attacks (tremor vs jerks).

A standard EEG is of some diagnostic value when the history indicates a high probability, but not certainty, of epilepsy. Where the history is unlike epilepsy, positive predictive value is low, and false positives will result. Techniques that record attacks, such as ambulatory EEG monitoring, short outpatient video EEG, and inpatient vide EEG, are usually diagnostic if attacks can be recorded.

**Conclusions** The diagnosis of attack disorders is based on clinical history. Most oddities are unusual presentations of common conditions.

**Sponsors** None.

**Declaration** No conflict of interest declared.

#### *Acute headache: who needs investigation, which ones, and when?*

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#### *Abstract*

**Background** Most patients presenting with sudden, severe headache will have a benign primary headache diagnosis such as migraine or thunderclap, but about 10–25% will have serious underlying pathology (secondary headache syndrome), most commonly SAH. In an ideal world, all such patients would be assessed by neurologists, but, in the UK at least, this is not currently feasible. Thus general physicians need to know who to investigate, how, and when.

**Methods or Theme** Diagnosis begins with an accurate history, and it is essential to differentiate truly abrupt onset headache (maximal immediately or within minutes at the most), from an evolving headache, which is rarely, if ever, due to SAH. Associated symptoms, such as vomiting, neck stiffness, transient disturbance of consciousness/seizures, and focal neurology, are insufficient to accurately differentiate primary from secondary syndromes. All patients with a truly abrupt onset headache therefore require investigation.

Unenhanced CT brain scanning is the investigation of choice, and performed promptly (within 48 hours of ictus), and interpreted correctly, is very accurate for SAH, with a false negative rate of less than 5%. The longer the delay from ictus to scan, the greater the false negative rate. All patients with an abrupt onset headache and a 'negative' CT require a lumbar puncture, which should ideally be postponed for at least nine

hours after the ictus, and performed by an experienced operator. Correct interpretation is vital. Confirmed SAH patients should then proceed to vascular imaging (CT angiography). Other serious intracranial pathology (e.g. cerebral venous thrombosis, pituitary apoplexy, arterial dissection) may present with abrupt headache, mimicking SAH.

**Conclusions** Regarding sudden severe headache:

- History allows identification of who requires investigation and who does not, but does not allow the distinction of primary from secondary headache syndromes.
- A normal CT brain scan does not exclude SAH (and other serious pathology).
- CSF examination is still required in 'negative' CT scan cases, and interpretation may not be straightforward.
- Sudden severe headache may be due to serious intracranial pathology other than SAH.

#### References

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- 3 Davenport RJ. Sudden headache in the Emergency Department. *Practical Neurology* 2005; **5**:132–43.
- 4 Davenport RJ. Acute headache in the Emergency Department. *J Neurol Neurosurg Psychiatry* 2002; **72** (suppl II):ii33–ii37.

**Key words** Subarachnoid haemorrhage, sudden headache.

**Sponsors** None.

**Declaration** No conflict of interest declared.

## SESSION 2

Chair: Dr A Howie, Consultant Physician, Stirling Royal Infirmary

### *Investigation and management of neutropenia*

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#### Abstract

**Background** Neutropenia is a frequently encountered blood abnormality in clinical practice. The bone marrow produces one million neutrophils every second, and the process of neutrophil production including cell division and differentiation was presented. The definition of a normal range encompassing two standard deviations either side of the median was discussed along with the importance of ethnic variations affecting normal range. The principal causes of neutropenia include drug effects,

immune mechanisms and bone marrow disorders. The principles of managing neutropenia include assessment of severity, precipitating factors, general measures and specific measures. A special strategy is required for the management of severe neutropenia in patients receiving chemotherapy.

**Key words** Neutropenia, normal range, drug effects, immune mechanisms, bone marrow disorders, chemotherapy.

**Sponsors** None.

**Declaration** No conflict of interest declared.

## AL-HAMMADI LECTURE

Chair: Professor N Douglas, President, Royal College of Physicians of Edinburgh

### *Epilepsy in acute medicine - acute asthma*

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#### Abstract

**Background** Approximately half of those with out-of-control asthma attending Emergency Departments in the UK are adults, and half are children. Many who are admitted to hospital have clear evidence of severe asthma, but it is not necessarily acute. Lesser exacerbations of asthma are similarly more often of gradual onset, and for many, time is available for the patient, or the patient with health professional help, to alter therapy to prevent themselves deteriorating to the point that they need urgent medical care. A quarter of those who require mechanical ventilation for severe asthma have been shown to be deteriorating for more than three weeks before admission to hospital.

Self management education is therefore of vital and proven importance, and is the approach recommended in the BTS/SIGN British Asthma Guidelines. For those who do nevertheless require hospital care it is important that treatment is prompt, its effect monitored, and that, upon recovery the opportunity is taken to explore the circumstances surrounding the deterioration in an attempt to prevent recurrence.

The Emergency Management of Asthma.

A checklist for use after an Emergency attendance or admission because of asthma:

(Note that every episode of severe asthma represents a potential failure of our previous management).

- Was the patient's inhaler technique satisfactory?
- Prior to the attack were they on, and were they taking, sufficient preventive therapy?
- Was there an avoidable precipitating cause, e.g. aspirin use, alcohol, allergen exposure or occupational cause?
- Was this a genuine, sudden, severe (brittle) attack and do they need to be taught the special first aid measures needed by this group?
- Is the patient a poor perceiver of severity?
- Did the patient react appropriately to the impending attack, and did they have a written personal asthma action plan?

#### References

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- 3 Gibson PG, Powell H, Coughlan J *et al*. Self management education and regular practitioner review for adults with asthma [Cochrane Review] 2003; Oxford, Update Software, The Cochrane Library, Issue 1.
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**Key words** Acute asthma, British Asthma Guidelines.

**Sponsors** None.

**Declaration** No conflict of interest declared.

### SESSION 3

Chair: Professor T MacDonald, Professor of Pharmacology, University of Dundee

#### *Lifestyle drugs: the final frontier of therapeutics?*

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#### Abstract

**Background** The exact definition of a 'lifestyle' drug is unclear, but the term is usually applied to an expanding number of drugs that are used to achieve non-health-related goals. However, there remains considerable debate about what constitutes merely a lifestyle goal rather than a true health gain. This new area of drug usage is estimated to be worth around US\$30 billion annually. Examples of agents that are often considered as lifestyle drugs include sildenafil (impotence), orlistat and sibutramine (weight loss), bupropion (smoking cessation), minoxidil (hair loss) and oral contraceptives. Further agents are likely to be targeted at enhancing our mental capacities, mood and social interactions. A closely related phenomenon is 'disease-

mongering', which involves redefining life experiences as abnormal and unhealthy, with the aim of expanding indications and use of lifestyle drugs. The rapidly increasing availability of lifestyle drugs presents a major challenge to the utilisation of health-related resources and traditional routes to accessing medicines. Opinions about whether this is a positive trend and how best to manage these challenges vary and depend upon our definition of disease, our view concerning the role of the National Health Service, and concerns about a significant expansion of drug use in society.

**Key Words** 'Lifestyle' drug, sildenafil (impotence), orlistat and sibutramine (weight loss), bupropion (smoking cessation), minoxidil (hair loss), oral contraceptives.

**Sponsors** None.

**Declaration** No conflict of interest declared.

#### *Debate: evidence-based medicine in the elderly results in unacceptable polypharmacy*

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#### Abstract

**Background** Guidelines were first introduced in the early 1990s, primarily for their educational value but have now assumed not only a therapeutic but also a medicolegal importance beyond that ever envisaged by their more ardent protagonists. The strongest guideline recommendations are based on large multicentre studies, often funded by the self-interested pharmaceutical industry, and may be wholly inappropriate for an individual patient. This is particularly so in the elderly in whom multiple pathology is the norm, and in whom the unthinking application of guidelines leads to unacceptable polypharmacy. As such, guidelines are the very antithesis of the art of medicine and by their very nature deny the holistic approach craved by the patient.

**Key Words** Guidelines, multicentre studies, multiple pathology, polypharmacy, holistic approach.

**Sponsors** None.

**Declaration** No conflict of interest declared.

### DAY 2

#### *Small troponin rise with or without ECG changes: drugs or the cath lab?*

Chair: Professor D Webb, Professor of Clinical Pharmacology and Therapeutics, Queen's Medical

Research Institute, University of Edinburgh

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#### Abstract

**Background** Management varies widely, in the UK and elsewhere, among patients presenting to hospital with suspected acute coronary syndrome and a modest troponin elevation. Based on *post hoc* data from randomised studies, the benefits of intervention were seen among higher risk patients, including those with troponin elevation. However, newer higher sensitivity troponin assays are now available, and have been widely implemented. These can detect very minor troponin elevations (e.g. 0.03ng/ml of troponin I). Is this sufficient to identify higher risk patients for more aggressive pharmacological and interventional therapy?

**Methods or Theme** Prospective registries have been conducted (GRACE, CRUSADE and others) and these have demonstrated the importance of a more comprehensive risk assessment beyond that based on troponin alone.

21,688 patients from the GRACE registry were used to derive a prospective risk score for the whole spectrum of acute coronary syndrome. The score was validated in the subsequent 22,122 patients and also validated externally in the GUSTO IIb dataset of 12,142 patients. The C-statistic for death was 0.81 and for death or myocardial infarction was 0.73. Independent studies have demonstrated the risk prediction of the GRACE score to be superior to that of the TIMI risk score or the PURSUIT score (Goncalves, *European Heart Journal* 2005; **26**:865–72).

The five year results of interventional studies have demonstrated that patients in the moderate or higher risk categories have the most to gain at 1 year, and at 5 years (RITA 3 study, FRISC II study and ICTUS study).

**Conclusions** Binary decisions based on troponin alone are inadequate. A more systematic approach to assessing risk (using a simple risk prediction tool) provides more robust identification of patients for interventional treatment and for more aggressive pharmacological treatment.

#### References

- 1 Fox KAA, Dabbous OH, Goldberg RJ *et al.* for the GRACE Investigators: Prediction of risk of death and myocardial infarction in the six months following presentation with ACS: a prospective, multinational, observational study (GRACE). *BMJ* doi:10.1136/bmj.38985.646481.55 and *BMJ* 2006;**333**:1091–4.
- 2 Fox KAA, Poole-Wilson P, Clayton TC *et al.* Long term impact of an interventional strategy in non ST elevation acute coronary syndrome: 5 year outcome of the BHF RITA 3 Study. *Lancet Fast Track* 2005; **366**:914–20.

- 3 Lagerqvist B, Husted S, Kontrny F, Stahle E, Swahn E, Wallentin L for Fast Revascularisation during instability in Coronary artery disease (FRISC-II) Investigators. 5-year outcomes in the FRISC-II randomised trial of an invasive versus a non-invasive strategy in non-ST-elevation acute coronary syndrome: a follow-up study. *Lancet* 2006; **368**(9540):998–1004.
- 4 ICTUS 3 year results. European Society of Cardiology. Hotline September 2006.

**Key Words** Acute coronary syndrome, troponin, risk prediction.

**Sponsors** None.

**Declaration** No conflict of interest declared.

## SESSION 2

### Recent medical advances in critical care

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#### Abstract

**Background** In terms of the depth and breadth of data collection, the worldwide proliferation of academic multi-centre studies, and the introduction of new concepts and therapeutic modalities over the last decade, critical care is, arguably, the most dynamic of all medical specialties. Novel insights into pathophysiology, response to treatments, and outcomes have led to major re-evaluations of how we currently care for the critically ill patient.

**Methods or Theme** Examples will be given of each of the above areas, demonstrating how the philosophy and practice of patient management has altered over the last decade as a result.

Particular emphasis will be paid to: (i) the impact of earlier recognition of critical illness and targeted interventions to improve outcomes; (ii) increasing awareness of covert harm of many of our long-established practices; (iii) the consequent appreciation that 'less is often best' – whether it be moderation in the type and/or degree of therapy (e.g. blood transfusion targets, sedation, ventilation), or acceptance of biophysiological values that are abnormal yet still compatible with survival.

**Conclusions** Outcomes from critical illness have improved over the last decade though much still remains to be learnt. The future is promising in terms of new technological advances and further improvements in practice, though daunting in terms of resource limitation and societal expectation.

#### References

- 1 Singer M, de Santis V, Vitale D, Jeffcoate W. Multiorgan failure is an adaptive, endocrine-mediated, metabolic response to overwhelming systemic inflammation. *Lancet* 2004; **364**:545–8.
- 2 Singer M, Glynne P. Treating critical illness: the importance of first

doing no harm. *PLoS Med* 2005; **2:e167**:108–13.

3 [www.icnarc.org](http://www.icnarc.org)

4 Vincent JL, Fink MP, Marini JJ et al. Intensive care and emergency medicine: progress over the past 25 years. *Chest* 2006; **129**:1061–7.

**Key Words** Intensive care, critical illness, sepsis, outcomes

**Sponsors** MRC, Wellcome Trust, and European Union.

**Declaration** Professor Singer sits on advisory boards for companies involved with monitoring devices, antibiotics, immunomodulatory agents and vasopressors.

### Thrombolysis for acute stroke

Chair: Dr Susan Pound, Consultant Physician, Queen Margaret Hospital, Dunfermline

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#### Abstract

**Background** When a cerebral artery is occluded by clot, the blood flow to the brain supplied by that artery may drop to a critical level so that neuronal function ceases and the patient develops the symptoms of a stroke. If the artery can be re-opened within a few hours, then brain tissue which would otherwise have died may be salvaged, resulting in a less severe stroke deficit and improved functional outcome. Thrombolysis with tissue plasminogen activator given within three hours of stroke onset improves stroke outcomes. It is less clear whether thrombolysis is effective if given later after the stroke onset and whether other methods of re-opening vessels are effective. Ongoing studies aim to refine the decision making about who should be thrombolysed, when and how.

**Conclusions** Few patients with stroke in the UK currently receive thrombolysis. The challenge for the NHS is to make patients aware of the importance of presenting early with the symptoms of stroke and then to provide services to deliver thrombolytic therapy. This has to involve collaboration between primary and secondary care, stroke specialists and other specialists working in emergency medicine services.

**Key Words** Stroke, thrombolysis tissue plasminogen activator.

**Sponsors** None.

**Declaration** No conflict of interest to declare.

## SESSION 4

### Acute liver failure – alcoholic hepatitis: a challenge for UK medicine in the 21st century

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#### Abstract

**Background** Whilst there are many causes of acute liver failure, changes in the pattern of drinking, increased availability of cheap alcohol and an apparent absence of cultural constraints on excessive consumption means that the predominant form of acute liver disease seen by general physicians is, and will be, alcoholic hepatitis. Alcoholic hepatitis is a challenge to manage because it is, in effect, an acute-on-chronic liver injury. Alcoholic hepatitis is a severe form of liver disease with in hospital mortalities in excess of 50% in some series. With careful attention to detail and scrupulous management with respect to the presence of infection and treatment of complications, this mortality can be brought down, although it may still be as high as 20%.

Specific treatments for alcoholic hepatitis include immunosuppression and TNF $\alpha$  antagonists. These approaches will be reviewed, as will specific aspects of management of the acute features of alcoholic hepatitis.

**Key Words** Acute liver failure, alcoholic hepatitis, immunosuppression, TNF $\alpha$  antagonists.

**Sponsors** None.

**Declaration** Professor Iredale has worked as a Consultant for GEC Healthcare on imaging strategies for hepatic fibrosis.