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Abstracts: St Andrew's Day Symposium 2007

ABBREVIATIONS Acute myocardial infarction (AMI), electroencephalogram (EEG), endoscopic retrograde cholangiopancreatography (ERCP), gastrointestinal (GI), hospital-acquired infection (HAI), human immunodeficiency virus (HIV), intravenous (IV), liver function tests (LFTs), magnetic resonance cholangiopancratography (MRCP), methicillin-resistant *Staphylococcus aureus* (MRSA), number needed to treat (NNT), proton pump inhibitors (PPIs), rapid access neurology clinic (RANC), severe acute respiratory syndrome (SARS), transient ischaemic attack (TIA)

EDUCATION

DERMATOLOGY FOR THE ACUTE PHYSICIAN

Professor J Rees, Professor of Dermatology, University of Edinburgh, Edinburgh, UK
Email jonathan.rees@ed.ac.uk

Background The overlap between acute internal medicine and dermatology is not large. Topics that might be considered are:

1 Patients who present via the acute receiving unit with extensive skin signs that appear to be primary. As for most dermatology, diagnostic investigations are seldom helpful and expertise relies on 'awareness' and having 'seen it before'.

2 Patients who present to and are cared for by dermatologists, but where the importance of other systemic disease, or more commonly the effect of dermatological treatment on other organ status, is initially underappreciated.

3 Patients who for one reason or another do not follow the normal care pathways, and can therefore end up being dealt with by physicians who do not normally come across this particular spectrum of clinical problems.

The talk presents important examples from each of these groups. Liaison Dermatology does not exist, but perhaps it should.

Keywords Dermatology, skin disease
Sponsors None
Declaration No competing interests

ATRIAL FIBRILLATION AND ABLATION THERAPY – MODERN MANAGEMENT

Professor G Lip, Professor of Cardiovascular Medicine, City Hospital, Birmingham, UK

No abstract provided.

VALVULAR HEART DISEASE

Dr B Prendergast, Consultant Cardiologist, John Radcliffe Hospital, Oxford, UK
Email bernard.prendergast@smuht.nwest.nhs.uk

Background Valvular heart disease is a source of significant morbidity and mortality with increasing prevalence, largely as a consequence of the ageing population. This changing epidemiology, combined with greater insights into underlying valve pathophysiology and the advent of percutaneous valve replacement, places valvular heart disease firmly in the medical and public eye.

Recent advances in our understanding of mitral and aortic valve disease, coupled with limited effects of medical therapy and improved surgery, have encouraged earlier intervention, even in selected patients with minimal or no symptoms. The evidence to guide such practice is limited, however, and the area remains controversial.

A principal limitation of medical therapy is the ability to identify individuals accurately at the earliest stages of disease. For example, plentiful animal data support the benefits of lipid lowering in patients with degenerative aortic stenosis whose pathology mirrors that of atherosclerosis. However, clinical trials of statins in this setting have proved negative, largely as a result of the enrolment of patients with established disease, long after the interval when reversal of the disease process will be of benefit. Similar inadequacies have been identified in clinical studies addressing the benefits of early versus deferred valve repair in degenerative mitral regurgitation. Available data are retrospective and observational in nature, with no definitive randomised trials.

Current international guidelines are therefore based upon expert opinion rather than robust evidence. The future will ideally witness an improvement in the evidence base, accompanied by further refinement in imaging (including routine magnetic resonance) and widespread application of percutaneous valve technology.

Keywords Ageing population, degenerative aortic stenosis, percutaneous valve replacement, statins, valvular heart disease
Sponsors None
Declaration No competing interests

CHEST PAIN AT THE FRONT DOOR

Professor S Goodacre, Professor of Emergency Medicine, University of Sheffield, Sheffield, UK
Email s.goodacre@sheffield.ac.uk

Background Chest pain is responsible for around 6% of adult emergency department attendances and one quarter of acute medical admissions. Assessment aims to detect and treat AMI but avoid unnecessary hospital admission. Failure to diagnose and treat AMI leads to a doubling in mortality for this condition. In addition, patients with ST-elevation AMI need urgent treatment.

Method or theme This presentation will focus upon recent research that helps us to address the following questions: When should we suspect AMI? What is required to rule out AMI? How should we judge new cardiac markers or testing regimes? Should we set up a chest pain unit? Should we be doing primary angioplasty?

Acute myocardial infarction should be suspected in most attendances with chest pain, especially those with 'indigestion' or burning pain. Regimes for ruling out AMI need to weigh the risks of missed AMI against the costs, inconvenience and practicality of hospital admission. New cardiac markers should not be judged on the basis of their sensitivity alone, but by their specificity and prognostic value as well. Chest pain units can improve care but may increase admissions with chest pain. Primary angioplasty is more effective than thrombolysis for ST-elevation AMI, but direct transfer to the cath lab may be necessary to achieve acceptable door-to-balloon times.

Conclusions Acute chest pain assessment is a challenging and rapidly developing area of medical care.

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Keywords Acute myocardial infarction, chest pain, primary angioplasty
Sponsorship None
Declaration No conflict of interest

DIARRHOEA AT THE FRONT DOOR

Dr M Harbord, Consultant Gastroenterologist, Chelsea and Westminster Hospital, London, UK
Email marcus.harbord@chelwest.nhs.uk

Background Acute diarrhoea is not an uncommon presentation to the acute medical unit. It is usually caused by infectious organisms. Markers of severity include fever, haemodynamic compromise and dysentery. *Clostridium difficile* infection is becoming an increasingly important cause of acute diarrhoea, particularly in the elderly patient provided with antibiotics. The presentation will focus on the management of acute infectious diarrhoea and *C. difficile* diarrhoea. Management strategies for patients with inflammatory bowel disease and HIV will be discussed. The presentation will be case-based, interactive and informative.

Keywords Acute diarrhoea, antibiotics, dysentery, *Clostridium difficile*, HIV
Sponsorship None
Declaration No conflict of interest

BREATHLESSNESS AT THE FRONT DOOR

Professor D Bell, Professor of Acute Medicine, Chelsea and Westminster Hospital, Imperial College, London, UK

No abstract provided.

CHEMICAL TERRORIST THREATS – ARE WE READY?

Dr JP Thompson, Consultant, National Poisons Information Service (Cardiff Centre), Llandough Hospital, Cardiff, UK

No abstract provided.

MANAGEMENT OF THE ACUTELY DISTURBED PATIENT

Dr S MacHale, Consultant Liaison Psychiatrist, Beaumont Hospital, Dublin, Republic of Ireland
Email siobhanmachale@beaumont.ie

Background The management of an acutely disturbed patient can be a difficult and stressful task for healthcare professionals. A 40% increase in self-reported violence to NHS staff between 1999 and 2002 (National Audit Office 2003) has contributed to an increased focus on this area, along with significant developments in clinical practice, including rapid tranquillisation strategies.

Formal guidelines have been produced by a number of bodies, including the Royal College of Psychiatrists (1998); the DOH (2004), relating to patient restraint; and most recently NICE (2005) on *The short-term management of*

disturbed/violent behaviour in psychiatric in-patient settings and emergency departments.

Acute behavioural disturbance in a general hospital setting is most frequently associated with physical illness or substance misuse (intoxication/withdrawal), although it may also occur in the context of psychiatric illness or personality disorder/antisocial behaviour. The management of acute behavioural disturbance will be outlined with particular reference to delirium and alcohol withdrawal. Systemic issues, including the importance of environmental manipulation, will be explored, as well as the need for clinical algorithms/protocols, appropriate training and hospital policies, and incident review.

The important role of rapid tranquillisation to allow behavioural control when all else has failed will be explored, holding fast to important principles of dignity, respect and safety, while recognising that treatment of the underlying cause still needs to be addressed.

Keywords Acutely disturbed patient, alcohol withdrawal, delirium, disturbed and violent behaviour, patient restraint, rapid tranquillisation strategies
Sponsorship None
Declaration No conflict of interest

EDUCATION

SYNCOPE AND SEIZURES

Dr JP Leach, Consultant Neurologist, Southern General Hospital, Glasgow, UK
Email johnpaul.leach@sgh.scot.nhs.uk

Background Differential diagnosis of blackout is an important feature of the acute medical take. The general physician can help.

Method or theme The main differential diagnosis in the acute setting is between syncope and seizure. This talk highlights the importance of considering syncope as a cause of loss of consciousness, and the best ways to distinguish it from seizure. The optimal investigation of loss of consciousness is discussed, particularly with regard to the limitations of the EEG. The need for a service for all new cases of 'first fit' is reinforced.

Keywords First fit, seizure
Sponsorship None
Declaration No conflict of interest

METABOLIC SYNDROME – FACT OR FAD?

Dr S Wild, Senior Lecturer in Epidemiology and Public Health, University of Edinburgh, Edinburgh, UK

No abstract provided.

HOW TO IMPROVE THE OUTCOME OF ACUTE GASTROINTESTINAL BLEEDING

Dr J Plevris, Consultant Gastroenterologist, Royal Infirmary of Edinburgh, Edinburgh, UK
Email j.plevris@ed.ac.uk

Background Acute upper gastrointestinal haemorrhage is the most common emergency for the gastroenterologist, with an incidence of 50–176/100,000 of population. Peptic ulcer disease accounts for more than 50% of total cases, followed by gastroduodenal erosions (15%), oesophagitis (5–15%), varices (10–12%), Mallory-Weiss tears (15%), vascular malformations 5% and malignancy 2%.

Methods or themes The cornerstones of management to improve outcome are:

- Early systematic assessment of severity (Rockall score) and early resuscitation. High-risk patients are best managed in a high-dependency or intensive-care environment, particularly if there is cardiovascular instability or risk of aspiration. Anaesthetic support is invaluable.
- Early endoscopy (<24 hours) is important.
- Adrenaline 1:10,000 injections reduce rebleeding, surgical intervention and mortality if stigmata of recent bleeding present. There is little evidence that alternatives are much better. In selective arterial bleeds, adrenaline injection plus heater probe can be better than adrenaline injection alone. Metal clips are also useful in selected cases with obvious protruding vessels. For varices, banding is the treatment of choice.

Omeprazole 80 mg IV bolus plus 8 mg/h IV infusion post-endoscopy for 72 hours significantly reduces the risk of rebleeding.[1] A meta-analysis by Leontiadis *et al.*[2] showed that IV infusion of PPIs post-endoscopic treatment had no effect on mortality but reduced the risk of rebleed (NNT 12) and surgery (NNT 20). In a more recent study by J Lau *et al.*,[3] infusion of high-dose omeprazole before endoscopy accelerated the resolution of signs of bleeding ulcers and reduced the need for endoscopic therapy.

At present the use of IV PPIs prior to endoscopy should be reserved for patients unable to receive oral PPIs.

The surgical team should be involved early, since 10–15% of patients will need surgery. It is important to look for and eradicate *Helicobacter pylori*.

Conclusion Early systematic assessment of severity of bleeding, the management of patients in an appropriate high-dependency environment, early endoscopy, a multi-disciplinary approach and the use of IV PPIs can substantially improve the prognosis of patients with upper GI bleeding.

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Keywords IV proton pump inhibitors, Rockall score, therapeutic endoscopy, upper gastrointestinal bleeding
Sponsorship None
Declaration No conflict of interest

JAUNDICE – HOW TO INVESTIGATE AND MANAGE

Dr John Dillon, Consultant Physician, Ninewells Hospital, Dundee, UK
Email j.dillon@nhs.net

Background Jaundice is a significant and usually obvious physical sign and always indicates pathology. The nature of that pathology is varied; in particular, the prognosis may vary from a benign congenital abnormality of metabolism with no mortality to a drug toxicity where death may follow in days. The underlying pathologies range from genetic abnormalities of bilirubin metabolism through infections, drug reactions and causes of chronic liver disease, gallstones and malignancy, including tumours of the pancreas, biliary tract and liver.

Methods or themes It is therefore vital to assess patients rapidly, but also to tailor that assessment to the prognosis of their condition. The key to this is an accurate history and the pivotal investigations of LFTs, prothrombin time and abdominal ultrasound to allow construction of a measured plan of management.

The lecture will discuss in more detail some new or particularly important aspects, in particular when to use MRCP rather than ERCP. The former has as high a diagnostic accuracy as the latter, but ERCP has the advantage of therapeutic benefit at the risk of pancreatitis. The identification of patients at high risk of fulminant hepatic failure will be covered, and the importance of history, aetiology and prothrombin time will be stressed. The increasing problems of hepatic drug reactions, particularly those related to alternative medicines, will be highlighted and the presentation of chronic liver disease masquerading as an acute problem will be covered.

Conclusion In conclusion, effective pathways of care, tailored to patient need, will be outlined.

Keywords Abdominal ultrasound, ERCP, jaundice, LFTs, MRCP, prothrombin time
Sponsorship None
Declaration No conflict of interest

UPDATE ON RENAL VASCULITIS

Dr David Kluth, Consultant Renal Physician, Royal Infirmary, Edinburgh, UK

No abstract provided.

WHY IS ASTHMA BECOMING MORE COMMON IN OUR CHILDREN?

Dr Graham Devereux, Consultant Physician, Aberdeen Royal Infirmary, Aberdeen, UK
Email g.devereux@abdn.ac.uk

Background Since the 1960s there has been a marked increase in the prevalence of asthma in affluent countries. In 1964 the lifetime prevalence of asthma in school children in Aberdeen was 4%; it is now 26%. Such a rapid increase must be due to changing environmental influences.

Themes The increase in asthma is widely attributed to air pollution. However, geographical and temporal trends suggest that air pollution is at the most a very minor contributor.

There is little evidence of increasing allergen exposure. Recent work suggests that early-life allergen exposure may be beneficial, while allergen avoidance appears not to be beneficial.

Two studies raise the possibility that early-life exposure to household cleaning agents may increase the risk of childhood asthma.

The hygiene hypothesis postulates that the increase in asthma is a consequence of decreasing exposure to microbes. Studies have shown that children raised on farms are at reduced risk of asthma. This appears to be due to exposure to unpasteurised milk and bacterial constituents such as endotoxin. Work is under way to use these findings.

There is increasing interest in the role of diet in asthma. Many studies report associations between nutrients and asthma, but intervention studies report no clinical benefit from supplementation in asthma. Two studies have reported potentially important beneficial associations between maternal intake of nutrients, such as vitamins E and D, and childhood wheeze, asthma and lung function. Work is under way to ascertain whether maternal diet can be manipulated during pregnancy to reduce the prevalence of childhood asthma.

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Keywords Asthma, diet, early life, hygiene
Sponsorship None
Declaration No conflict of interest

EDUCATION

EDUCATION

THE CHALLENGES OF HOSPITAL-ACQUIRED INFECTIONS

Professor Hugh Pennington, Emeritus Professor of Bacteriology, University of Aberdeen, Aberdeen, UK
Email mmb036@abdn.ac.uk

Background The Health Protection Scotland survey of 2005–6 showed an acute HAI prevalence of 9·5%. Care of the elderly (11·9%), surgery (11·2%), medicine (9·6%) and orthopaedics (9·2%) ranked top. Urinary tract (17·9%) surgical site (15·9%) and gastrointestinal (15·4%) infections dominated. The most important organisms were *Staphylococcus aureus* and *Clostridium difficile*. The survey estimated that HAI cost the NHS in Scotland £183 million/year. HAIs are not new, of course. Pyaemia and hospital gangrene were the curse of surgery until the 1860s, when Joseph Lister developed antisepsis in Glasgow. Another definitive advance was the discovery of *Staphylococcus aureus* in the late 1870s by Alexander Ogston in Aberdeen. But despite these groundbreaking developments and an enormous amount of work since, there is still a major problem. Why?

Themes My themes will be that although we are good at learning lessons from history, we are even better at forgetting them – and that microbes evolve in real time. I will show, for example, that the science underpinning alcohol as a hand hygiene agent was fully developed by 1900, and that recommendations made in that year to prevent the scourge of the nineteenth-century lunatic asylum, dysentery, were identical to those promulgated more than a century later by the Healthcare Commission in its reports on *C. difficile* outbreaks in hospitals at Stoke Mandeville and Maidstone.

Evolution continually throws up new HAI challenges: MRSA, new strains of *C. difficile* and norovirus, SARS and *E.coli* O157. Tuberculosis has been helped enormously by HIV.

But tried and tested infection control measures work against the new as well as the old. My closing theme will be that isolation of the infected is crucial. Methicillin-resistant *Staphylococcus aureus* control in the Netherlands (which I will review) has required it to be successful.

Conclusion My motto will be Lady Macbeth's words: 'What, will these hands ne'er be clean?'

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Sponsorship None
Declaration No conflict of interest

WHAT DOES A NON-ONCOLOGIST NEED TO KNOW ABOUT CANCER?

Dr Marianne Nicolson, Consultant Oncologist, Aberdeen Royal Infirmary, Aberdeen, UK

No abstract provided.

ACUTE NEUROLOGICAL PROBLEMS – WHO NEEDS A NEUROLOGIST?

Dr Rustam Al-Shahi Salman, MRC Clinical Scientist and Honorary Consultant Neurologist, Western General Hospital, Edinburgh, UK
Email Rustam.Al-Shahi@ed.ac.uk

Background Neurological problems account for up to one fifth of acute medical admissions,[1–4] yet only one third are seen by neurologists.[5] We audited current practice in Edinburgh, prior to establishing a rapid access neurology clinic (RANC).

Method or theme We retrospectively audited all attendances at the Edinburgh Royal Infirmary emergency department (in majors) and combined assessment area (in trolleys) during October–December 2005 inclusive, to ascertain the proportion of adults being assessed by neurology services.

Of 12,025 attendances, 1,347 (11%) were neurological. We excluded patients for whom dedicated pathways/clinics already existed (syncope, n=286; TIA/stroke, n=250; first seizure, n=63), and patients already discussed with, referred or transferred to neurology services (n=106). The target population for a RANC consisted of the remaining 642 (48%) patients, whose main complaints (derived from diagnostic coding) were: (1) non-specific symptoms, (2) epilepsy and (3) headache disorders.

Conclusions The Association of British Neurologists aspires to neurologists assessing patients with acute neurological problems within 24–48 hours and, ultimately, managing them all.[6] While the service expands to meet these objectives, establishing a RANC appears to be a justifiable interim measure. A RANC is likely to benefit patients and save healthcare resources by minimising length of stay and targeting specialist investigation appropriately.

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Keywords Emergency medicine, headache, medical admissions unit, neurology
Sponsors None
Declaration No competing interests

WHO SHOULD LOOK AFTER ACUTE MEDICAL PATIENTS: ACUTE MEDICAL RECEIVING UNITS OR A&E DEPARTMENTS?

Dr O Erinfolami, Consultant in Emergency Medicine, Heartlands Hospital, Birmingham, UK
Email ola.erinfolami@heartofengland.nhs.uk

Summary The question is not so much 'who should look after acute medical patients?' It should be about 'which spectrum of patients should different specialties look after?'

Patients coming into the emergency department can be broadly divided into groups based on clinical acuity:
1 Critically ill/injured
2 Stable but require extended inpatient care (>24 hours' care)
3 Stable and can be discharged overnight

These patients include trauma, gynaecology, obstetrics, general surgery, paediatrics, medicine, etc.

The first group are usually managed by intensivists, with support from the appropriate specialty.

The second group are usually managed by the appropriate specialty team, such as medicine, trauma, etc.

It has been shown from the US experience,[1] and increasingly from well set-up units in the UK, that the third group is best managed by an emergency department-run clinical decision unit.[2] This is mostly because discharges by emergency physicians are patient-based. Patients go home when they are ready, based on predetermined discharge criteria. Patients admitted under inpatient specialties are discharged based on 'ward rounds'. This system is essentially physician-based rather than patient-based. Patients therefore stay in hospital longer than absolutely necessary.

In the hospital, intensivists manage critically ill/injured patients. Emergency physicians manage and should manage low-acuity patients who can be discharged overnight. Inpatient specialties such as acute medicine should manage more complex cases.

In the community, GPs manage low acuity and chronic conditions. The key is the acuity, not the diagnosis.

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Keywords Clinical decision unit, emergency department, intensivists
Sponsors None
Declaration No competing interests

EDUCATION