President
Professor PH Bayliss

Secretary
Professor Roy Taylor

Proceedings of the

Association of Physicians

of

Region No 1

Abstracts from meeting held at Freeman Hospital, Newcastle

Friday 18th July 2003

Friday 18th July 2003

An Audit of in-hospital endoscopic workload in two teaching Hospitals

Reddy A, Oppong K, Thompson NP
Freeman Hospital, Newcastle-upon-Tyne

Aims: We wanted to establish the demands of in-patient endoscopy requests and its consequences over a one-month period.
Results: 126 requests were made for in-patient endoscopic examinations during August 2002, 99 (78.5%) notes were retrieved and audited. The delay was a mean of 2.85 days. It was estimated that this delay contributed to 157 bed-days. Where upper GI bleeding was the indication, the mean delay was 0.84 days. During this month, a total of 1094 endoscopic procedures were performed.
Conclusion: In-patient endoscopic requests represent a significant workload and not rapidly meeting this results in significant increase in bed-days. Endoscopy units should be organised to meet this demand.

Is B-Type Natiuretic Peptide (Bnp) Of Value When Patients Are Admitted With Acute Breathlessness And Possible Heart Failure?

R Singh, S Mani, JI Johnston, A Fuat, WSA Smellie, JJ Murphy
Darlington Memorial Hospital

In chronic heart failure, natiuretic peptides provide diagnostic and prognostic information. What of acute heart failure?
During a two-month period B-type natiuretic peptide (BNP) was measured in 113 patients admitted with acute breathlessness to the medical admissions unit. We found the BNP level to be elevated in the majority of cases, regardless of whether the initial or final diagnosis was heart failure. A detailed review of these cases will be presented.
We also looked at the prognostic value of BNP. When the BNP level was plotted against in-hospital mortality, the co-efficient of correlation was very strong ($r = 0.91$).
Conclusion: In the acute setting, BNP provides limited diagnostic information as it is raised in a high proportion of acutely breathless patients. However the **level** of BNP is a powerful predictor of in-hospital mortality.

Palliative treatment of an entero-sigmoid fistula associated with a malignant sigmoid stricture with a covered nitinol stent: A case report.

Simon R Cowlam, Nigel D Grunshaw, Peter Trewby Darlington Memorial Hospital

An elderly lady with known colorectal carcinoma presented with symptoms of colonic obstruction. Investigation revealed a sigmoid colonic stricture with a fistula to the small bowel.
The patient refused surgery. A covered stent was radiologically deployed across the stricture and fistula.
Her distressing symptoms were relieved immediately by a simple, twenty-minute procedure done in the radiology department using minimal sedation. Stents are used increasingly in colonic strictures but there is only one other case report of the use of a stent to treat an entero-colonic fistula. Stenting offers an alternative to high-risk surgery and avoids a stoma in patients with colonic obstruction.

Effective treatment for cardiovascular risks: seven years of implementation of evidence from clinical trials into routine outpatint practice in a UK health district.

William Kelly , Rudy Bilous, Steve Jones, Vincent Connolly, Bijay Vaidya,
Elaine Hall
James Cook University Hospital,

Aim-to see how far strong evidence from trials has translated to prescribing
of effective therapy.7594 patients. Results show increases in statins,
aspirin, ACE inhibitors, b blockers and diuretics. HbA1c and smoking have not changed, and weight and BMI are increasing. Conclusions- some optimism for reducing cardiovascular morbidity.

Empirical acid suppression therapy delays diagnosis of upper gastrointestinal cancer but does not effect outcome.

Panter S, Bramble MG, O'Flanagan H, Hungin APS. James Cook University Hospital

Background Upper gastrointestinal cancer carries a poor prognosis in Western countries where the incidence of adenocarcinoma of the oesophagus is increasing on a background of falling rates for gastric adenocarcinoma. This increase has been attributed to an increasing prevalence of gastro-oesophageal reflux disease, a condition commonly treated by empirical acid suppression. Several studies report delayed diagnosis due to prior acid suppression but it is unclear if this affects prognosis. We aimed to answer this question.
Methods A detailed retrospective analysis of hospital and primary care records of 747 patients diagnosed with upper gastrointestinal adenocarcinoma in North East England during 1991-2001.
Findings Empirical acid suppression therapy (AST) was common prior to referral for specialist investigations increasing from 39% of patients with advanced disease at presentation to 62% of patients with 'early' disease where it increased the time to diagnosis by 21.5 weeks ($p<0.05$). Time to diagnosis was increased at all stages when empirical AST had been prescribed in primary care irrespective of presenting symptoms. Despite the empirical use of AST we were unable to demonstrate any detrimental effect on tumour stage at operation or worsening of outcome as judged by long-term survival.
Interpretation This study confirms that AST delays the diagnosis of upper gastrointestinal adenocarcinoma irrespective of presentation. Despite concerns that such a delay might affect outcome we could not demonstrate any effect on tumour stage or prognosis.

Title : Acute Severe Asthma – New Guidelines / New Problems?

Authors : Dr Ian Forrest, Prof Paul Corris, Respiratory Medicine , Freeman Hospital

We describe the case of a 34 year old male presenting with acute severe asthma who was treated with continous high dose salbutamol and developed severe lacic acidosis (pH 7.17) despite adequate oxygenation and haemodynamic status. This case demonstrates a potential serious adverse side effect of patients receiving high doses of B-2 agonist (a recommended treatment in the newly published BTS/SIGN guideline on asthma management). Moreover it raises a discussion regarding the implementation of evidence based guidelines in the 'real world' where the application of recommendations may not equate to the data on which guidelines are based.

Management of incidental hyperglycaemia in patients admitted as medical emergencies

Al-Bermani A, Desha YH, Morgan JL, Soobrah R, Symonds CS, Taylor R
Freeman Hospital

Control of hyperglycaemia brings about a 30% decrease in hospital mortality. Guidelines for managing incidental hyperglycaemia on the admissions unit and CCU have been in place at the RVI for many years. We audited adherence to the guidelines in 2002, and again in 2003 after an information campaign (n=608). The overall rates of sound management rose modestly from 55.7% in 2002 and to 77.97%. A clear resistance of doctors to use insulin in people not previously diagnosed as being diabetic was identified in both cohorts. Management of raised blood glucose levels profoundly affects survival rates in ill patients, and this requires to be widely appreciated.

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Invited Lecture Professor Chris Day
Steatohepatitis ……

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Abstracts of meeting held at Darlington Memorial Hospital
Saturday 15th November 2003

15th November 2003

MARKERS OF SURVIVAL BENEFIT IN PATIENTS WITH CARDIAC RESYNCHRON-ISATION THERAPY

Shepherd EJ, McComb JM
Freeman Hospital, Newcastle upon Tyne

Cardiac resynchronisation therapy (CRT) has been shown to offer symptomatic improvement in patients with heart failure. Optimal selection criteria for this treatment have not been defined. We studied serum sodium concentration, heart rate and blood pressure response before and after CRT using these as markers of improvement in 90 patients with heart failure.
65% of patients were in NYHA class 4. One year mortality was 90%. Sodium levels improved 3 months after biventricular pacing (136 – 137.75mmol/l; p=0.05). 70% of patients reported improvement in at least 1 NYHA class. There was no significant change in heart rate or mean blood pressure.
Biventricular pacing offers symptomatic benefit in severe heart failure. It may also affect neurohumoral factors. This may allow us to better define who is likely to respond to an expensive and technically challenging treatment.

ALCOHOLISM TREATMENT IN THE GENERAL HOSPITAL

Bateson MC
Bishop Auckland General Hospital

Since 1988 patients with alcoholism have been accepted for in-patient detoxification. During a week in hospital they were given reducing doses of chlormethiazole and disulfiram the latter starting at 200 mg tds and reducing to 200 mg daily, and treatment with thiamine as appropriate. They were offered medical consultant out-patient follow up three monthly for a year. If they defaulted and were not known to have relapsed the GP was contacted to establish outcome.
Initial audits showed 18/55 (33%) were abstinent at 1 year, significantly better than placebo in the largest previous survey (16%; $p < .05$), although that study did not show definite benefit from disulfiram. Addition of naltrexone 50 mg daily (31% success in 13 patients) did not improve results. Additional acamprosate 666 mg tds (12% success in 25 patients) may have been detrimental.
We now try to ensure all patients are seen by the Substance Misuse Team before admission to support long term care.

CAUSES OF MUSCULO-SKELETAL CHEST PAIN

How J, Volz G, Hamilton J, Heycock C AND Kelly C
Queen Elizabeth Hospital, Gateshead

We have already described to the Association the causes of atypical chest pain (ACP) precipitating hospital admission. Musculoskeletal conditions accounted for 40% of such episodes, but more precise definition of these cases had not previously been sought.
We undertook a detailed physical and psychological assessment of all patients with ACP of musculoskeletal origin. 33 patients were identified over 3 months and investigations revealed a local cause in 11 (capsulitis, costochondritis etc), a systemic cause in 11 (inflammatory joint disease) and psychological factors in 11 (fibromyalgia).
We believe the treatment and prognosis of each group to be distinctly different and commend this approach to other physicians.

AN AUDIT OF INITIAL MANAGEMENT OF THYROID NODULES IN SECONDARY CARE

[1] IM Ibrahim, [2]NAG Jones, [1]P Perros
Departments of [1]Endocrinology and [2]Surgery, Freeman Hospital, Newcastle upon Tyne, UK

Fine needle aspiration (FNA) is the investigation of choice for patients with thyroid nodules. The following standards should be met: assessment within 2 weeks of referral; FNA performed in the first visit; consent obtained and documented; communication of the result in person.
A cohort of 64 consecutive patients (57 female) was identified. The median age was 49. The median time for a new appointment was 19 days. FNA was performed in the first visit in 40 patients. Verbal consent was documented in 12 patients.
This audit has identified significant shortfalls in the management of thyroid nodules, particularly in communicating results to patients.

FAILURE TO HIT TARGETS IN DARLINGTON

G V Williams
Darlington Memorial Hospital

History is the most important aid for making a diagnosis in medicine.
However many patients admitted to hospital are unable to give a meaningful history. These patients are usually elderly and are on multiple medications often according to guidelines for several different medical conditions. In addition many have many abnormal laboratory and radiological tests. A snap survey showed 1/3 of medical in patients to fit into this category.
During training of general practitioners only one year may be spent in general medicine and it is unlikely that this is a sufficient period of training for general practitioners to be able to manage such patients effectively.
Furthermore specialist registrar training concentrates on the speciality rather than general medicine. RITA assessments also focus on the specialist area of training rather than the general. Such training does not equip newly appointed consultants with the experience to cope with this numerically very significant group of patients.

TUBERCULOSIS SCREENING IN ASYLUM SEEKERS AND IMMIGRANTS – A RETROSPECTIVE AUDIT

C M Monaghan, J Branthwaite, R N Harrison and D N Leitch
Department of Respiratory Medicine,
University Hospital of North Tees,

A retrospective audit was performed to evaluate the TB screening service provided for asylum seekers and identify areas for improvement. Between 2001-2003, 1293 individuals were screened. 1049/1293 (81 %) were well, had a BCG scar and were discharged. 244/1293 (19%) were well, had no scar and underwent Heaf testing. 3 were grade 3-4 positive and were seen at the chest clinic. No-one screened was noted to have TB. During the same period 7 asylum seekers presented acutely with TB, all before screening could be performed. This audit has highlighted important issues relating to screening at entry, timing of transfer and referral for local screening.

AUDIT OF PATIENTS ON LONGTERM AMIODARONE THERAPY

S.Joseph,V.Arutchelvam,AJ Mcculloch
Bishop Auckland Hospital.

Amiodarone is a commonly used life saving anti arrhythmic drug. However it has side effects involving many organs including thyroid, lungs liver, eyes etc. Patients on long term amiodarone therapy should be followed up in a structured manner to avoid these complications. We decided to audit the follow up of patients on amiodarone in our hospital as there was no protocol in place.
134 patients receiving amiodarone over a period of 12 months were audited. Most were more than 70 years old. Commonest indication for use was atrial fibrillation. 67% of patients had thyroid function tested before starting therapy. Thyroid function tests were repeated in 32% at 6 months ,31% at 12 months and 26% at 18 months. Only 3% had FT3 checked even though it is an important thyroid function test in patients on amiodarone. Out of 37 patients who had pre existing lung disease only 2 had pulmonary function tests. 8 patients (6%)developed amiodarone induced thyrotoxicosis , 14(10%) developed hypothyroidism and 2 patients developed amiodarone lung.
The audit demonstrated that patients on longterm amiodarone therapy were not adequately followed and we have since developed a structured protocol.

DO WE NEED JOINT DIABETIC-RENAL CLINICS - A DISTRICT GENERAL HOSPITAL EXPERIENCE

M Jayapaul, R Messersmith, DN Bennett-Jones, PA Mead, DM Large.
Cumberland Infirmary, Carlisle.

A retrospective study was done to determine whether a Joint Diabetic-Renal clinic influenced the progression of renal disease. We collected data on 133 patients of which 62% were type2 and 38% type1 diabetics. Baseline median creatinine was 124 mol/l. Statistically significant improvements were made in systolic BP, diastolic BP and cholesterol ($p<0.001$). Analysis by linear regression showed that the rate of decline of GFR was reduced from 0.8ml/min/month in the first year to 0.32ml/min/month in the third year

($p<0.001$). This study has shown that the rate of deterioration of renal function could be slowed more effectively in a joint clinic.

COMPARATIVE STUDY OF BARIUM FOLLOW THROUGH AND SMALL INTESTINAL ULTRASOUND FOR THE INVESTIGATION OF SUSPECTED SMALL BOWEL PATHOLOGY

SR Cowlam[1], ND Grunshaw[2], M Anderson[2], S Mitchell[1], PN Trewby[1]
Department of Medicine[1] and Radiology[2]
Darlington Memorial Hospital

Barium follow through examination (BFT) is regarded as the standard first line test for patients with suspected small bowel pathology but its limitations include significant radiation exposure and failure to show detailed intra- and extra-mural pathology. Small intestinal Ultrasound (SIU) does not have these limitations although is operator dependant. In this study we have compared SIU and BFT findings in patients with suspected small bowel pathology.

Results SIU and BFT were performed by two independent radiologists blinded to the results of the other test. To date 41 patients have had both examinations. Median time between tests was two days. Using BFT as the gold standard for small bowel pathology the the sensitivity and specificity of SIU was 94% and 96%. (McNemars test p=1.00, Kappa = 0.9). In a satisfaction questionnaire patients universally preferred SIU.

Conclusion These data support the development of SIU as the initial investigation in cases of suspected small bowel pathology and demonstrate its value in the diagnosis of small bowel Crohn's disease. A negative initial ultrasound could avoid the need for BFT and unnecessary radiation exposure. Repeat SIU in those allows disease activity to be monitored in a way not possible with BAF. SIU is underused in the investigation of small bowel disease. It is non invasive, widely available, can be repeated and is well tolerated.

Invited Lecture
From Podocyte to Presription Pad.

Professor Rudy Bilous, James Cook University Hospital

The glomerular epithelial cell or podocyte plays a critical role in maintaining the integrity of the glomerular capillary to circulating macromolecules. Recently podocytes have been found in the urine of proteinuric patients and the idea has developed that podocyte loss may cause or contribute to progressive nephropathies in man.

In diabetes, proteinuria (specifically albuminuria) is the earliest detectable sign of nephropathy so there has been a great deal of research exploring the role of podocyte loss in this process. Some workers have found reductions in the average number of podocytes per glomerulus in patients with early nephropathy whereas others (including ourselves) feel the data are more consistent with podocyte loss accompanying rather than initiating the process. Certainly in normotensive type 1 diabetic patients with microalbuminuria podocyte numbers are not different from non diabetic controls, whereas in heavily proteinuric type 2 patients there are significantly fewer cells.

Part of the discrepancy may be due to methodological differences. It is very difficult to obtain unbiased estimates of podocyte number but we have used the gold standard methodology in Newcastle and therefore feel confident in our results.

Recent trial data in proteinuric type 2 patients using angiotensin 2 receptor blocking drugs suggests that the greater the reduction in proteinuria with medication, the better the level of renal protection. Patients on irbesartan had significantly less proteinuria for a given systemic blood pressure than those on amlodipine or conventional antihypertensive therapy. The recent discovery of angiotensin 2 receptors on the surface of the podocyte may provide a unifying hypothesis linking structural and functional changes in the diabetic kidney

Association Business

Date of next meeting **Bishop Auckland General Hospital 13/3/04.**

Please e mail abstracts - 150 words only - to Roy.Taylor@nuth.northy.nhs.uk by 29/1/04

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Abstracts of meeting held at Bishop Auckland General Hospital
Saturday 13h March 2004

13h March 2004

CAN A ONE STOP TIA CLINIC MEET RCP RECOMMENDATIONS?

Mehrzad AA
Bishop Auckland General Hospital

The British Royal College guidelines recommend that patients with a TIA should be seen and investigated within two weeks of presentation, as the risk of a stroke is very high in this critical period.
I run a one stop clinic for TIA patients, where patients have CT, duplex, echo, chest x-ray, ECG and routine bloods. Audit of this clinic showed that only 49% of patients are seen within two weeks, the rest being seen within one month. There is a further delay in obtaining MRA for confirmation of duplex findings. In a one year period 12 out-patients and 8 in-patients had endarterectomy with one peri-operative death, however, none of these procedures were done within two weeks of referral.
Conclusion– In spite of running a one-stop fast track TIA clinic, this hospital does not meet College guidelines. We need to improve public awareness of TIA, increase the number of TIA clinics, treat TIA and stroke as an emergency, reduce MRA waiting time and reduce surgical waiting times.

ALCOHOL HARM REDUCTION: WILL A HEALTH WARNING HELP?

Chris Record, Hanan Mardini
Newcastle upon Tyne Hospitals NHS Trust

The British Society of Gastroenterology and British Association for the Study of the Liver represent the 600 Consultant Physicians in Gastroenterology and Hepatology in the UK who are the principal carers for the burden of alcohol related disease in the NHS. They are currently conducting a campaign for the inclusion of a health warning on alcohol products in the Cabinet Office National Alcohol Harm Reduction Strategy currently being formulated. 500 of their members have signed a petition requesting labelling of all alcohol products with:

HM GOVERNMENT HEALTH WARNING: THIS PRODUCT CONTAINS X UNITS OF ALCOHOL. CONSUMPTION OF MORE THAN 21UNITS/WEEK FOR MEN AND 14 UNITS/WEEK FOR WOMEN CAN DAMAGE YOUR HEALTH.

Our paper summarises the evidence for the effectiveness of such warnings in the USA and Australia.

ACUTE COLITIS INDUCED BY TOPICAL CLINDAMYCIN PHOSPHATE FOR ACNE VULGARIS

Simon Williams, Alan J Wright, S Zafar Abbas.
Department of Medicine, Hexham General Hospital, Northumberland.

Clostridium Difficile associated disease range from mild diarrhoea to pseudomembranous colitis. For the treatment of acne vulgaris, topical clindamycin is thought to be a safe preparation.
We report only the second case of proven colitis associated with the use of topical clindamycin phosphate which highlights several important points.

REAL TIME 3D ECHO - CARDIOGRAPHY. A NEW NON-INVASIVE METHOD FOR RELIABLE MEASUREMENT OF CARDIAC OUTPUT

Sean M Fleming, Christoph Kiesewetter, Barry Cumberledge, Gareth Parry, Antoinette Kenny
Freeman Hospital

Determination of stroke volume (SV) is a potentially important application of real time three-dimensional echocardiography (RT3DE). We compared SV measurements by thermodilution with values obtained using transthoracic RT3DE in a sequential cohort (n=16).
There was a strong correlation between echo derived SV and catherisation data (cc = 0.92). On average RT3DE appeared to underestimate SV by 8mls (SD 6.5mls) or 17% (SD 14%). It has previously been demonstrated that SV measurement by thermodilution overestimates the true value by 20%. We suggest a role for RT3DE in the measurement of SV in severe heart failure.

HEPATITIS C AND NICE GUIDANCE IN DAILY PRACTICE

HC Mitchison
Sunderland Royal Hospital

Can NICE guidance for Hepatitis C (HCV) be delivered? This was examined in a three year

retrospective survey of all HCV antibody results in Sunderland. In 15% (6/39) the result went apparently unnoticed with no evidence that GP or patient had been informed. Once attending a Gastroenterology clinic the NICE guidance for investigation and treatment were followed; thus 20/20 had HCV RNA measured. Drop out rates were high through out all stages: only 2 of 31 patients reached the goal of completed treatment. In practice, NICE guidance will only benefit the few.

800 WASTED DOCTOR YEARS

Anand Lokare, Peter Trewby
Darlington Memorial Hospital

We analysed the curricula vitae and responses to a questionnaire sent to 874 overseas doctors who applied for a PRHO post in Darlington. Their average period of unemployment was 11.2 months. The wasted doctor-time for this group was 817 years. 67% regretted taking PLAB. Most felt the GMC should restrict the numbers taking PLAB to prevent unemployment. Other suggestions to improve the process for their successors included giving more information on the intensity of competition; raising the pass rate of PLAB; geographical zoning of applicants; rationalising and providing a central electronic repository for CVs; publishing a central register of hospitals prepared to take clinical attachments and automatic GMC registration after passing PLAB. 1/3 of junior doctors train overseas. Many suffer personal and financial hardship when applying for posts. Simple changes could improve the experience for their successors.

A PROSPECTIVE STUDY OF THE EFFECTS OF RADIOIODINE THERAPY FOR HYPER-THYROIDISM IN PATIENTS WITH INACTIVE GRAVES' OPHTHALMOPATHY

S Frewin, JA Dickinson, P Kendall-Taylor, C Neoh, P Perros
Joint Thyroid Eye Clinic, Newcastle upon Tyne Hospitals NHS Trust

Radioiodine but has been implicated as a risk factor for deterioration of Graves' ophthalmopathy. Prophylactic steroids are advocated in such cases. Hypothyroidism may also aggravate Graves' ophthalmopathy. The study was performed to investigate the course of Graves' ophthalmopathy following radioiodine in patients with inactive eye disease treated with prophylactic thyroxine but no glucocorticoid therapy. 72 patients with Graves' ophthalmopathy with inactive eye disease were treated with radioiodine. Thyroxine replacement was commenced 2 weeks post-radioidine to prevent hypothyroidism. Patients were assessed at 2, 4, 6 and 12 months post-radioiodine. Exophthalmometer readings, palpebral aperture width, diplopia scores and clinical activity score declined significantly. Overall, eye disease improved in 4 patients. No patient deteriorated . Radioiodine is not associated with deterioration of Graves' ophthalmopathy in patients with inactive eye disease. Prophylactic steroids are unnecessary for this group of patients.

METHOTREXATE RELATED PULMONARY COMPLICATIONS

Shazia Abdullah, Simon Doe, Clive Kelly, Carol Heycock & Jennifer Hamilton
Queen Elizabeth Hospital, Gateshead

Methotrexate (MTX) is the commonest disease modifying drug used in Rheumatoid Arthitis (RA) but may be associated with risk of respiratory problems. Data were collected on all RA patients taking MTX admitted with acute pulmonary disease over 6 months. Of 920 RA patients on MTX, 12 (1.3%) developed pulmonary complications. 8 had lobar pneumonia, 3 pneumonitis and 1 pneumocystis pneumonia. 4 of these 12 died. Predictors for death were abnormal baseline pulmonary function, renal impairment, pancytopenia and erratic blood monitoring.

We have introduced changes in the way we prescribe and monitor MTX in RA patients, and as a result expect to show a reduction in morbidity and mortality relating to this agent.

TRANSFER TIMES FOR IN-PATIENT CORONARY ANGIOGRAPHY IN ACS PATIENTS

A. Turley, S James, J McGowan, S Bolton, A. Davies, M.J. Stewart, N.J. Linker, J. Hall, A. Harcombe, R.A. Wright, M.A. de Belder
James Cook University Hospital

The investigation and treatment of "high risk" acute coronary syndrome (ACS) patients requires in-patient transfer to a tertiary care centre (TCC) for diagnostic coronary angiography +/- revascularisation. We reviewed 404 referrals over a 4 month period to assess where delays occurred and the

number of wasted bed days. Our target was to perform procedures within 3 days of referral. Of the 404 patients 179 patients were "in-house" and 225 were transferred from DGHs. 35% had normal biochemical markers, 53% had raised markers and 11% had ST elevation MI. Only 21% underwent procedure within 3 days of referral and of DGH patients only 11% reached the target. The mean delay from referral to procedure was 8.1 days (referral to transfer 3.4 days; transfer to procedure 5.5 days). Total lost bed days was 2419 days (DGH 615, TCC 1804).

Conclusion: The current infrastructure for managing ACS patients is inadequate. The cost of additional facilities would be countered by a reduction in lost bed days

Invited Lecture

MAGNETIC RESONANCE: A NEW WINDOW ON CLINICAL INVESTIGATION

Professor Roy Taylor Royal Victoria Infirmary Newcastle.

The development of a new technique for investigation of disordered physiology is a relatively rare event. Magnetic resonance spectroscopy allows non-invasive examination of biochemical and physiological changes in organs or tissues *in vivo*. It depends upon the magnetic properties of some atomic nuclei which can be neatly aligned in a strong magnetic field and then perturbed by a radio frequency pulse. When the transient radio wave passes, the energy absorbed by the atoms is emitted in the form of radio frequency waves which can be detected and analysed. The magic of the technique is that the signal being analysed is actually generated from the molecules which make up the body. As repeated measurements are simple and safe, real time observations of life (and all that) are possible.

Glycogen stores in muscle are important to all, not just athletes, and they can readily be monitored. We have studied the rate of recovery of muscle glycogen after single muscle exercise and have described for the first time the insulin independent and insulin dependent phases of recovery. In first degree relatives of people with type 2 diabetes the rate of the insulin sensitive phase is markedly diminished. Can this be altered?

Food disappears from the plate – but where does it really go? We have shown that 30% of the carbohydrate eaten is stored as muscle glycogen and 20% is stored as liver glycogen at peak, 5 hours after a normal meal. We have also introduced the concept of muscle as a dynamic buffer to take up large amounts of the osmotically active glucose acutely after a meal and then to redistribute the stores from 5 hours onwards. In type 2 diabetes, the muscle hardly contributes to glycogen storage after meals – so it is not remarkable that blood glucose soars.

There is currently intense interest in the phenomenon of grossly increased triglyceride stores in liver and muscle in type 2 diabetes. We have devised a technique to track the passage of ingested triglyceride through liver and muscle in order to understand how the distribution fails, with such major knock on effects for metabolism and atheroma. In a parallel series of studies the very potent effects of 4 months of pioglitazone therapy have been measured, and we observed that the triglyceride content of liver is decreased by 60%, dramatically more than the change in plasma lipids.

These studies require a 3 Tesla magnet (twice as powerful as routine MR scanners). So far studies have been conducted by transporting subjects to Nottingham. An MR Centre for Newcastle is now in the planning phase and will be complete early in 2006. In addition to MR spectroscopy described above, detailed imaging studies will illuminate structure and function in many disease states.

Association Business

Date of next meeting: Cumberland Infirmary, Carlisle 2.00 pm Friday 9/7/2004**.**
Please e mail abstracts - 150 words only - to Roy.Taylor@nuth.northy.nhs.uk by 18/5/2004
Please also e-mail the names of any new colleagues - or your own name - if you are not on the mailing list to . to Roy.Taylor@nuth.northy.nhs.uk

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Dr Hewan Dewar at his home in Wylam with his wife following the presentation of an engraved silver plate donated by the Committee and Members of the Association to mark the occasion of his 90th birthday. Dr Dewar was Secretary and President of the Northern Region Association of Physicians from its foundation for over 50 years and is still actively involved in its affairs.

Abstracts of meeting held at Carlisle Infirmary Friday 8th July 2004

8th July 2004

ENDOCINCH (TEP) TREATMENT FOR GASTROESOPHAGEAL REFLUX DISEASE: ONE YEAR PROSPECTIVE FOLLOW UP

Mahmood Zahid
Carlisle Infirmary

Background: Gastrooesophagael Reflux Disease (GORD) is normally treated with proton pump inhibitors (PPI) or Nissan fundoplication operation. Recently BARD© developed Endocinch©, a device used to place sutures just below the oesophago-gastric junction (OGJ) to treat GORD. **Aim:** To evaluate the long-term benefit of Endocinch© technique in patients seen up to twelve months post procedure. **Patients:** Twenty-six patients were treated. Four patients were lost to follow up. Twenty-two patients completed their 1-year follow up. Pre and post procedure assessment included symptom scoring (DeMeester), upper intestinal endoscopy, oesophageal manometry and 24-hour oesophageal pH, and completion of quality of life (QOL) questionnaires. **Results:** Mean age 39 (22 – 62 yrs.). Heartburn symptom score reduced from mean of 19.22 at baseline to 7.5 at 12 months (n=22) ($p < 0.0001$). Regurgitation score reduced from mean of 2.27 at base line to 0.86 at 12 months (n=22) ($p < 0.001$). The Mean (SEM) pH DeMeester acid score reduced from 44.1 (4.3) to 33.32 (4.73) ($p = 0.028$) at 3 month post procedure. Percentage upright acid exposure and number of reflux episodes also reduced significantly. Use of PPI was reduced by 64% at 12 months post procedure. All QOL assessments showed significant improvement ($p = 0.01$). All transient post procedure complaints resolved in 72 hours.

LIFE-THREATENING HYPOKALAEMIA ASSOCIATED WITH LOW-CARBOHYDRATE DIET IN A PATIENT WITH PREVIOUSLY UNDIAGNOSED PRIMARY HYPO-ALDOSTERONISM

Andrew Advani, Roy Taylor
Royal Victoria Infirmary

A man who had succeeded in losing three and a half stones through adhering to the popular, low-carbohydrate 'Atkins Diet' over the preceding four months was admitted with profound muscle weakness. Routine biochemistry revealed a serum potassium level of 1.9mmol/l. Intravenous potassium replacement brought about restoration of muscle strength. After restoration of serum potassium levels, plasma aldosterone:renin ratios were found to be elevated**.** Re-testing of plasma aldosterone:renin ratios four months later confirmed a diagnosis of primary hyperaldosteronism with negligible change in relation to posture (recumbent aldosterone 765 pmol/L, PRA 0.3 pmol/ml/hour (ratio 2550); prone aldosterone 785 pmol/L, PRA 0.3 pmol/ml/hour (ratio 2617)). Both adrenal glands appeared of normal size, shape and contour with no focal abnormality seen within them on CT scanning. Recently, the true prevalence of primary hyperaldosteronism has been reported as 6% of the general population. There are sound reasons for expecting a tendency to hypokalaemia on low carbohydrate diets, and for those individual with subclinical hyperaldosteronism, severe consequences may result.

HOW EFFECTIVE ARE GUIDELINES IN ACHIEVING GOOD BLOOD GLUCOSE CONTROL IN ACUTE MEDICAL ADMISSIONS?

B P Roomallah & R Taylor

Royal Victoria Infirmary

Incidental hyperglycaemia is a relatively common finding in patients admitted to acute medical emergency wards, and existing information suggests that it is not managed well. Prospective randomised trials have shown that good blood glucose control achieves a dramatic reduction in mortality (34% in severely ill patients) and morbidity (46%). In order to be able to describe the effect of applying the RVI guidelines to all hyperglycaemic acute medical admissions, blood glucose data was collected over the first 24 hours of admission upon 31 consecutive hyperglycaemic patients. Blood glucose in the groups managed according to guidelines or not respectively at 0, 4 and 8 hours was 14.8±0.9 vs. 16.4±1.1 mM (p=NS), 8.0±0.7 vs.14.5±1.3 mM ($p<0.001$)and 6.9±0.6 vs. 14.6±1.3mM ($p<0.001$). Although the guidelines have been in use since 1986 and revised in 2000, this is the first study on the level of achievement of good blood glucose control.

THE EFFECT OF SMOKING AND CARD15 GENOTYPE ON THE RECURRENCE OF CROHN'S DISEASE AFTER ILEAL RESECTION

Barbour J, Price M, Dou D, Sutherland-Craggs A, Donaldson P, Dwarakarnath D, Cunliffe W, Kadis S, Onnie C, Mathew C, Mansfield J.
Newcastle upon Tyne Hospitals NHS Trust

It has long been known that there is a genetic component to Crohn's disease (CD). Twin studies have demonstrated a 37% disease concordance for monozygotic twins. In 2001 the first gene (CARD 15) was discovered to be associated with the disease. The effect this gene mutation has on disease phenotype is unclear.

Smoking is an important variable when studying phenotype as it is well recognised that smokers do worse than non-smokers.

118 patients with small bowel resection were studied. Smokers (70) were more likely than non-smokers (48) to have subsequent operations, 57% vs. 23%. CARD15+ve patients seemed to have a lower age at first operation than CARD15-ve individuals, 28.6 y vs. 30.7 y and were more likely to have subsequent operations, 56% vs. 36%, but not all patients have yet been fully genotyped.

CARD15 genotype appears to identify a more aggressive form of ileal disease with younger onset.

INFLAMMATORY BOWEL DISEASE AND SMOKING: A SURVEY OF PATIENTS' KNOWLEDGE AND VIEWS

Gavin Johnson, Nick Thompson
Cumberland Infirmary and Freeman Hospital

Introduction – Smoking is detrimental in Crohn's disease (CD) but has a positive effect in ulcerative colitis (UC). A previous survey from Birmingham, UK, found only 13% of Crohn's patients knew of an adverse link of their disease with smoking although 63% of smokers with Crohn's disease had been advised to stop by a hospital doctor.

Aims and Methods –A questionnaire survey was sent to all 505 members of an IBD patient support group (National Association of Colitis and Crohn's disease, NACC) in north-east England. The recipients receive secondary care in 7 hospitals from 32 gastroenterologists.

Results - There were 303 (60%) responses (107 male; UC 129 including 4 smokers, CD 154 including 21 smokers). Smokers with CD were more likely to have had a bowel resection than non-smokers (86% compared to 65.%; $P<0.1$). Only 33% of CD patients knew that smoking had a deleterious effect on the disease, and only 12% of UC patients knew smoking is beneficial to their disease. 14 of 42 (33%) ex smokers with CD reported an improvement in the disease upon quitting compared to 1 of 27 (4%) quitters with UC ($P<0.01$). By contrast, 37% of UC quitters felt that their disease deteriorated, with none of the CD quitters reporting a deterioration ($P<0.001$). The majority of CD smokers wished to stop (95%). 48 % of CD patients still smoking had been advised to stop by a GP, and 81% by a hospital doctor. Assisted methods for smoking cessation were rarely used .

Conclusions - In a third of cases stopping smoking made CD better and UC worse. The majority of CD patients still smoking want to stop, but there is under use of all methods of smoking cessation.

Invited Lecture

ACUTE STROKE –THE TIMES THEY ARE A CHANGING

Professor Gary Ford
Newcastle University, Freeman Hospital Stroke Service

Acute stroke management requires early recognition of the symptoms of stroke, rapid response by pre-hospital services to transfer patients to hospitals with acute stroke facilities, early clinical diagnosis and imaging, and effective delivery of acute interventions such as thrombolysis followed by rehabilitation and reintegration of patients into the community.

These are the 7 R's – recognise, react, respond, reveal, Rx/reperfusion, rehabilitation, reintegration. A major milestone was the demonstration in animal models of acute stroke of the existence of the ischaemic penumbra - brain tissue with reduced perfusion likely to die through apoptotic cell death that is salvageable through reperfusion or neuroprotective drugs. Clear evidence exists for the benefit of thrombolysis with alteplase in a 3 hour time window for appropriately selected patients with acute ischaemic stroke. Recent phase II data suggest that haemostatic therapy with recombinant Factor VIIa may be an effective hyperacute treatment for primary intracerebral haemorrhage, reducing death and disability through prevention of early haematoma expansion.

In the last 5 years we have sought to improve diagnosis of stroke in the pre-hospital setting and Emergency Room setting to facilitate triage and early treatment. A Rapid Ambulance Protocol was established and a stroke recognition instrument FAST (**F**ace **A**rm **S**peech **T**est) developed for paramedics[1,2]. Each month 20-25 patients with suspected acute stroke are now directly triaged to the Freeman Hospital Stroke Unit by the Rapid Ambulance Protocol which has been critical in enabling the delivery of intravenous thrombolytic therapy for stroke in Newcastle. Diagnostic accuracy of paramedics has been >80% and paramedics show excellent agreement in eliciting FAST deficits in comparison to independent neurological assessment[3]. Study of the usual stroke mimics (the 3 S's – syncope, seizure and sepsis) and examining the presence of symptoms and signs in suspected stroke patients presenting to Accident & Emergency department has led to the development of the ROSIER scale (**R**ecognition **O**f **S**troke **I**n the **E**mergency **R**oom) with 91% sensitivity and 75% specificity in a prospective validation[4]. Introduction of the instrument led to a reduction in stroke mimics from 43% to 28% A&E referrals with suspected stroke.

High dose estrogen is an effective neuroprotective agent in animal models with multimodal mechanisms of action, and potentially a relatively inexpensive acute stroke treatment. In a phase II dose-ranging study in male and female patients with previous cerebrovascular disease of the pharmacokinetics and tolerability of an intravenous loading and 7 day transdermal maintenance (100-400 ucg/24 hrs) 17β-estradiol dosing regimen we have shown that putative plasma neuroprotective concentrations can be obtained with no significant adverse effects.

It is hoped the recent announcement by the Dept. of Health of the intention to create a stroke clinical research network will facilitate the development of effective therapies for a disease until recently considered untreatable with acute intervention.

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5. Pharmacokinetics and Tolerability of High Dose Intravenous and Transdermal Maintenance 17 Beta-Estradiol in Patients with Cerebrovascular Disease. O Hossain, GA Ford. Cerebrovasc Dis 2004 (Abstract In Press)

Association Business

Date of next meeting: Cumberland Infirmary, Carlisle 2.00 pm Friday 9/7/2004**.**
Please e mail abstracts - 150 words only - to Roy.Taylor@nuth.northy.nhs.uk by 18/5/2004
Please also e-mail the names of any new colleagues - or your own name - if you are not on the mailing list to Roy.Taylor@nuth.northy.nhs.uk.

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Proceedings of the

Association of North of England Physicians

Abstracts of meeting held at James Cook University Hospital
Saturday 6th November 2004

November 2004

THE USE OF A MEDICAL EARLY WARNING SYSTEM (MEWS) IN THE ASSESSMENT OF ACUTELY ILL MEDICAL PATIENTS

Emily Fairclough, Jennifer Hamilton and Clive Kelly.
Queen Elizabeth Hospital, Gateshead

We have adopted and adapted an earlier medical early warning system (MEWS) for patients with signs of severe disease.
All admissions to MAU over one month were assessed using this scoring system on a scale of 0-8 where higher scores equate to higher risk. Modalities assessed included pulse, blood pressure and respiratory rate. Outcome of all admissions, together with demographic data and diagnosis were analysed.
We found a strong correlation between mortality and MEWS score, with patients scoring 3 or less having 100% survival, while those scoring over 5 had 30% mortality. This was true for every age group (by decade) up to those aged 80.
Associations were also found between mortality and high CRP and low albumin.
We recommend the wider adoption of this system to allow the admitting team to focus on patients at greatest risk – as identified by a MEWS score of 4 or more.

EXCESS WINTER MORTALITY IN DIABETIC SUBJECTS

S. Nag[1], N. Roper[2], J. Goodwin[3], W. Kelly[1], V. Connolly[1]
[1]James Cook University Hospital, [2]University Hospital of North Tees, [3]Research Division, Help the Aged, London, United Kingdom.

Seasonal variation of death was studied over 8 years in 1736 subjects drawn from the South Tees Diabetes Mortality Study cohort. Causes of death were extracted from death certificates obtained from the Office for National Statistics and coded using ICD-10 rules. Townsend scores were used to assess the relationship between seasonal deaths and socio-economic class. Temperatures from 1994-2002 were obtained from the Meteorological Office (UK) and monthly deaths were correlated to the average monthly temperatures.
36% of the South Tees Diabetes Mortality Study cohort (1736 patients; male: 55%) died between January 1994 and December 2002.All cause mortality was highest in January (Crude mortality rate 4.17 %, 95% CI 3.60-4.75;mean monthly temperature 4° C,range 2.5-5.8) and lowest in July (Crude mortality rate 2.54 %, 95% CI 2.09-2.99; mean monthly temperature 16° C, range 14.5-16.7). Mortality increased in December and peaked in January. Circulatory disease (59%) was the major cause of death with 40% of deaths due to ischaemic heart disease (IHD). Mortality from IHD was highest in January (Mortality rate 1.76% ,95% CI :1.39-2.13) and lowest in July (Mortality rate 0.87%,95% CI: 0.61-1.13). 38 % of deaths observed in the cohort occurred between December and March. Deaths from respiratory disease peaked in January. No seasonal variation was observed for deaths due to malignancy and cerebrovascular disease. For IHD,an inverse relationship between deaths and socioeconomic status was observed in January but not July. Deaths from IHD in January were 50% higher in the most deprived group compared to the most affluent group.
Conclusion: There was excess diabetic mortality in winter with deaths mainly from circulatory disease peaking in January. Winter mortality due to IHD was highest in the poorest socio-economic group who may benefit from warmer and better insulated houses.

A DECADE OF LIPID LOWERING THERAPY

ACM Thompson and PC Adams
Royal Victoria Infirmary Newcastle

Lipid-lowering therapy, in particular with statins, has transformed the management of patients with vascular disease. Total cholesterol levels in 1600 patients undergoing cardiac catheterisation demonstrated a continuous, significant decrease in population total-cholesterol levels over this period. Total cholesterol fell by 2.2mmol/L in major CAD patients and by 1.6mmol/L in patients without CAD ($p<0.0001$ and $p<0.0002$ respectively). This reduction was associated with statin use, in a dose-response relationship.
In 2004 over 85% of patients with major CAD and 97.6% of patients with past MI were receiving therapy. The impact of the FATS guidelines is clear from changes in prescribing. Separate data suggests the FATS guidelines have had a major impact on prescribing in Newcastle generally. This would be predicted to lead to gains in lives saved and reductions in major vascular events.

TEACHING, TRAVELLING AND TROPICAL DISEASES AT THE EQUATOR

Dr William Kelly
James Cook University Hospital.
Middlesbrough

Aim: To teach endocrinology to MRCP standard for Residents/ Registrars in Kumasi, Ghana, who take the West African College Exam.
Sponsored by RCP London.
Experience of a large Teaching Hospital with 1000 beds - but 1300 inpatients (think about it). Chance to see fantastic variety (to UK eyes) of diseases including schistosomiasis, malaria, sickle cell crises, HIV, TB, and various(ugh) parasites. Free time in large city, and also visit to Mole nature reserve, walks with elephants in savanna.
Conclusion: recommended.

PARADOXICAL EMBOLISM THROUGH A PATENT FORAMEN OVALE: AN UNEXPECTED COMPLICATION OF EXTUBATION.

AJ Turley, J Thambyrajah, FL Clarke, MJ Stewart Dr Fiona L Clarke
James Cook University Hospital

A 41-year old male, with insulin-dependent diabetes mellitus, was admitted for elective arthroscopy of his left shoulder. At the end of the procedure, he regained consciousness but then became unresponsive, following a violent bout of coughing at extubation.. He developed bilateral up-going plantar responses, de-corticate posturing, abnormal pupillary reflexes. He was re-sedated and given muscle relaxants, and reventilated. No metabolic disturbance was identified and CT head scan and 12-lead ECG were normal. The following day the patient was extubated without incident and made a full neurological recovery. Contrast echocardiography, performed using agitated saline delivered through a femoral venous line, revealed a large patent foramen ovale with evidence of right to left shunting. The patient was commenced on life-long aspirin to minimise his future embolic risk.

TRULY RARE - A TRUE HERMAPHRODITE

V Arutchelvam[1],J Wolstenholme[2] & WF Kelly[1]
[1]James Cook University Hospital, Middlesborough, UK; [2]Institute of Human Genetics ,Newcastle upon Tyne hospitals, Newcastle, UK

True hermaphroditism requires the presence of both ovarian and testicular tissue in either the same or opposite gonads. The external genitalia may simulate those of either a male or a female or may be ambiguous.
A 14 years old phenotypic male presented with bilateral significant gynaecomastia, which caused embarrassment in school. The patient had pubic hair, right testis measured 8cc,the left 4cc and the penis measured 6 cm. Serum testosterone level was 1.8nanomols/l, FSH 1 unit/l,LH 1.7unit/l,SHBG 27 nanomols/l,17 beta oestradiol 150pmol/l and serum prolactin 159 microUnits/l. Testicular biopsy identified left gonad as ovary consisting of a cellular stroma with an identifiable ovum and several Graafian follicles at various stages of development. Right gonad was identified as ovotestis consisting of a ovum in a primary follicle and testicular tubule with thickened basement membranes and showing no evidence of spermatogenic activity. Chromosomal analysis demonstrated an abnormal 46,x,der(x)t(x;y)(p22;p11),ish der(x)(SRY +)karyotype. G banded analysis showed that a portion of a chromosome Y has been transferred onto the short arm of one chromosome X.FISH studies using the SRY probe demonstrated that the derivative X chromosome carried the sex determining region normally seen on the short arm of the Y chromosome. Patient was diagnosed to be an SRY + XX true hermaphrodite. He underwent bilateral orchidectomy with prosthetic replacement to prevent risk of gonadal neoplasm. Gynaecomastia was managed surgically. The cosmetic result was satisfactory to the patient who is being treated with intra muscular testosterone injections.

IS RESPIRATORY INFECTION IN PATIENTS WITH RHEUMATOID ARTHRITIS CAUSED BY DISEASE MODIFYING ANTI-RHEUMATIC DRUGS?

Peter Coyne, Vadivelu Saravanan, Carol Heycock, Jennifer Hamilton and Clive Kelly
Department of Medicine, Queen Elizabeth Hospital, Sheriff Hill, Gateshead. NE9 6SX

Respiratory infection has been recognized in patients with rheumatoid arthritis (RA) for decades, but the role of disease modifying anti rheumatic drugs (DMARDs) in its genesis has not been explored.

We identified all patients with RA admitted to the QE with respiratory illness in 2003 and the proportions of patients on each DMARD.
31 RA patients were admitted with 37 episodes of respiratory infection. Their mortality was 24%. The probability of admission was no greater in patients on DMARDs. Mortality was unrelated to DMARDs but was related to low white cell count. 54% of admissions were on Methotrexate, while 60% of all RA patients in the database were taking this drug.
Conclusions: DMARDs in general and Methotrexate in particular do not predispose to respiratory infection. .Rapid reversal of neutropaenia is essential to minimise mortality.

DILEMMAS IN FEEDING THE ELDERLY WITH COGNITIVE IMPAIRMENT - " TO PEG OR NOT TO PEG"

A J Bergin.
James Cook University Hospital

Percutaneous Endoscopic Gastrostomy tubes provide nutrition and hydration to patients unable to take sufficient orally. This presentation illustrates the dilemmas encountered when deciding on the best management of a patient with stroke and dementia. The opinions of the patient's family and of the multidisciplinary team are taken into account. This issue is topical due to a recent court judgement and the implications of this judgement for the GMC's guidance on the provision of artificial hydration and nutrition.

Invited Lecture

HEARTBREAKING GENES

Dr Bernard Keavney, Institute of Human Genetics, Newcastle University

Following on the major successes of human genetics in identifying the substrate for Mendelian diseases, the principal focus is now turning to the identification of susceptibility alleles for common diseases such as atherosclerotic vascular disease, diabetes and cancer. A variety of study designs including affected sibling-pair linkage analysis, family-based association studies and large-scale case-control studies have been employed. I will discuss these approaches with illustrative examples from our work on cardiovascular disease. Possibly the most important advance in complex trait genetics in recent years is the development of our understanding that genetic variation in populations is not highly punctate, but inherited in "blocks" which may extend for many thousands of base pairs. I will discuss the implications of this finding, using as an example our work on the angiotensin-converting enzyme (ACE) gene, and putting this in context of the whole-genome work of the HapMap consortium. Large blood-based epidemiological studies are increasingly able to find risk factors for complex diseases as the measurement of large numbers of compounds on small aliquots of blood becomes easier. While some of these factors may indeed be causal, other observed associations may arise from confounding or reverse causality. In several cases, observations made in epidemiological studies have failed to be borne out by randomised controlled trials; and in many other cases, suitable agents to subject the epidemiologically derived hypothesis to testing by RCT are not available. Recently, we proposed a genetic method ("Mendelian randomisation") for testing whether such hypothesised novel risk factors for complex disease are causal; I will present data from a study of plasma fibrinogen, fibrinogen genotypes and coronary heart disease risk which is the first large-scale application of this method. Finally, I will discuss the role of meta-analysis of genetic data in complex diseases.

Association Business

Next meeting: Queen Elizabeth Hospital Gateshead, Saturday 12th March 2005**.**
All abstracts for this meeting will be welcome be they from Consultants, SpRs, Junior Doctors or Medical Students. E-mail your abstract – 150 words only –before Thursday 3rd February 2005 to Roy.Taylor@nuth.northy.nhs.uk.
Let us know of the names of any new consultant colleagues, or your own name if you are not on the mailing list, by e-mailing Roy.Taylor@nuth.northy.nhs.uk.

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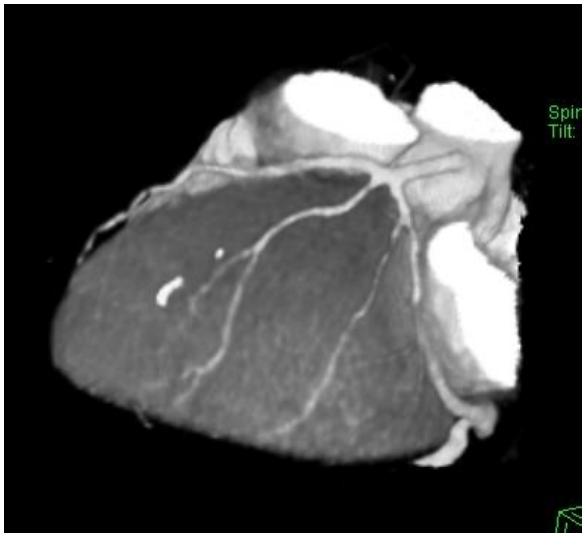

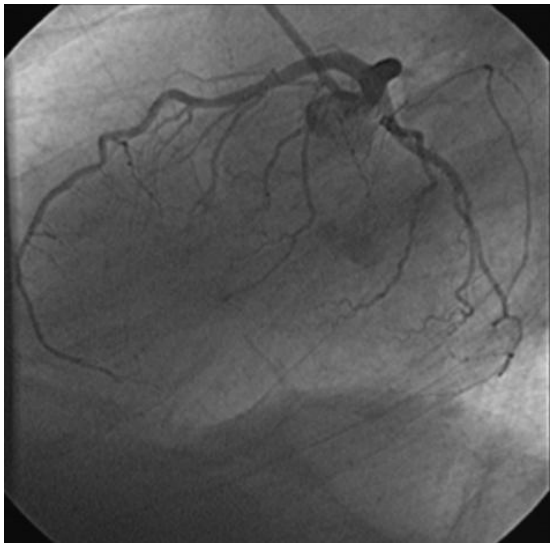

Non-invasive imaging of the coronary arteries by CT for excluding significant coronary stenoses in patients requiring aortic valve replacement – *see Dr Crilley's abstract.*

Abstracts of meeting held at Queen Elizabeth Hospital Gateshead
Saturday 12th March 2005

12th March 2005

DOES DAT SCANNING HELP DISTINGUISH BETWEEN PARKINSON'S DISEASE AND ESSENTIAL TREMOR IN OLDER PATIENTS

Davies H, Beaumont D M, Batholomew P.
Queen Elizabeth Hospital Gateshead

Essential Tremor may be difficult to distinguish from Tremor Predominant Parkinson's Disease. Dopamine transporter imaging uses a radiolabelled ligand to bind to transporter proteins in nigrostiatral system, and uptake is reduced in Parkinson's disease. An audit of 17 patients showed that DAT scanning resulted in a change of diagnosis in 6 out of 17 patients [35%] thus avoiding inappropriate medications. 10 patients with a clinical diagnosis of either essential tremor or Parkinson's disease were confirmed with one equivocal result. DAT scanning has proved useful in improving diagnosis of essential tremor and Parkinson's disease.

ONE-YEAR PROSPECTIVE AUDIT OF ERCP IN NEWCASTLE HOSPITALS NHS TRUST

Ramakrishnan S[(1)], Crosbie J[(1)], Gray H[(2)], Panter S[(1)], Mansfield S[(3)], Charnley RM[(3)], Griffin M[(3)], Hayes N[(3)], Hudson M[(1)], Matthewson K[(1)], Oppong K[(1)]
Departments of Gastroenterology[(1)] , Endoscopy[(2)] and Surgery[(3)], Freeman Hospital and Royal Victoria Infirmary, Newcastle upon Tyne.

Aim: To assess ERCP practice in 2 units (6 Consultant Endoscopists) within one acute Trust.
Results: 482 procedures were performed. The overall common bile duct cannulation rate was 90.5%. 76% of procedures were therapeutic. Complication rates were as follows; pancreatitis 3%, bleeding 0.8%, perforation 0.2%. 2.5% patients died within 30 days of the procedure. There was a statistically significant correlation between case volume and cannulation rate for individual endoscopists.
Conclusion: The majority of ERCP procedures were therapeutic. Overall acceptable rate of duct cannulation and procedural success were achieved. Complication and procedural mortality rate compares favourably with the published literature.

MORTALITY RATES FOR SOUTH ASIANS WITH DIABETES IN TEESSIDE ARE LOWER THAN THOSE FOR NON-SOUTH ASIANS. A 10 YEARS STUDY

S Nag, R Bilous, S Jones, W Kelly, V Connolly
James Cook University Hospital, Middlesbrough

Background: Mortality in South Asian diabetic subjects in the UK is higher than that in non South Asians. The excess mortality is predominantly due to cardiovascular disease.
Aims: To investigate mortality in South Asians and non South Asians in a population based cohort of diabetic subjects in Teeside.
Methods: 4842 patients (Male 55%) were studied. Standardised mortality rates (SMR), Kaplan Meier estimates and mortality hazard ratios (HR) were calculated. Median follow up was 10.6 years (40725 person years).
Results: There were 227 South Asian patients (male 62%) and 4615 non South Asians (male 55%). Mean age (54 vs. 59 yrs) and diabetes duration (7 vs. 8.4 yrs) differed between groups ($p<0.001$). 19% of South Asians (n=44,) and 41% of non South Asians (n=1903,) died by 10 years. South Asians were more deprived. SMR (95% CI) for non South Asians was 2.79 (2.67-2.92) compared to 2.07 (1.5-2.77) for South Asians. Kaplan Meier 10 year mortality estimates (%) for non South Asians and South Asians were 53 and 21 respectively ($p<0.0001$).Adjusted mortality HR (non South Asian vs. South Asian) was 1.77(1.31-2.39, $p<0.001$) for total mortality and 1.55(1.06-2.26; p 0.02) for circulatory deaths.
Conclusions: Despite increased deprivation, mortality in South Asians is lower than in non South Asians in Teesside. Older age and longer duration of diabetes in non South Asians may account for this difference.

SULPHASALAZINE METABOLITES MIMIC NOR-METADRENALINE AND CAN LEAD TO UNNECESSARY INVESTIGATIONS FOR PHAEOCHROMOCYTOMA

Ben Thompson, Ken Morgan, Kilmangalam Narayanan, Graham Handley, Jennifer Hamilton, Carol Heycock, Vadivelu Saravanan and Clive Kelly
Queen Elizabeth Hospital, Gateshead

A hypertensive patient taking Sulphasalazine (SSP) for rheumatoid arthritis had markedly elevated levels of normetadrenaline in a 24 hour urine sample and underwent extensive investigation for a possible phaeochromocytoma with negative findings. Urinary levels of normetadrenaline returned to normal after discontinuing Sulphasalazine (SSP).
This prompted us to ask whether the urinary metabolites of SSP might be chemically confused with normetadrenaline. We measured 24 hour urinary metadrenaline in 10 patients on SSP in escalating doses, and in 10 controls not receiving SSP. Analysis revealed a significantly increased mean level of normetadrenaline in patients on SSP compared to controls (58 vs 2.6 ngm/ml) and a trend towards a 'dose response' with patients on larger doses of SSP having higher urinary results.

We suggest that urinary metabolites of SSP mimic normetadrenaline sufficiently to produce a false positive test in patients receiving this agent, and that the drug be added to the list of those agents which must be withdrawn prior to urine collection for normetadrenalin.

ACTH- HIGH AND LOW VALUES: INVESTIGATIONS,TREATMENT AND OUTCOME

B.Bhattacharya,W.F.Kelly
James Cook University Hospital, ,Middlesbrough

We present contrasting patients in the context of impaired pituitary and adrenal function including a rare case who survived to age 50+ despite congenital isolated lack of ACTH.
We compare their different histories, findings, investigation methods and management plans.

A CARDIAC PARAGANGLIOMA PRESENTING WITH ATYPICAL CHEST PAIN. A CASE REPORT

AJ Turley, S Hunter, MJ Stewart
Cardiothoracic Division, The James Cook University Hospital, Middlesbrough,

Primary cardiac tumours are rare. The majority are benign and 75% are atrial myxomas. One of the more unusual benign tumours affecting the heart is a cardiac paraganglioma. A 56-year male presented with a 6-month history of vague, left-sided chest pain, intermittent parathesia of the left arm and dyspnoea on bending. Echocardiography documented a large, highly vascular mass, attached to the intra-atrial septum. All investigations; haematological, biochemical, neuroendocrine tumour markers and urinary cathecholamine levels were within normal limits. Macroscopically the tumour involved the whole of the atrial septum, roof of the left atrium and extended to surround the superior vena cava, excluding total resection. The feeding vessels were ligated in the hope of infarcting the remainder of the tumour. In over 2-years of follow-up the patient remains clinically stable. To our knowledge this is the first reported case where vascular ligation has been used to control a cardiac paraganglioma.

CAN YOU TRUST ELECTRONIC SPYGMOMANOMETERS?

Fisken R
Friarage Hospital, Northallerton

Health and safety considerations relating to elemental mercury have led to the widespread abandonment of mercury sphygmomanometers in the measurement of blood pressure. Because of concerns about the accuracy of alternative devices we investigated the performance of three electronic blood pressure measurement devices in groups of out- and in- patients including antenatal patients. Devices were assessed using a modified version of the British Hypertension Society protocol of 1993. Each device was tested against a mercury sphygmomanometer using multiple measurements. Assessments were made at different levels of blood pressure as well as in different patient groups. As well as BHS grading, devices were assessed by means of Bland-Altman plots.
Overall, no device achieved better than a grade B of the BHS protocol. The performance of the devices was poorer at higher pressures. Bland-Altman plots revealed a wide scatter of results around the line of identity.
The accuracy of the devices tested is not acceptable for general clinical use.

HAVE WE IMPROVED OUR ABILITY TO DETECT DVT IN OUT-PATIENTS OVER THE LAST FIVE YEARS?

Rebecca Day, Janet Thompson, Lynne Aiston,, Dawn Strong, Sharon Toner, Clive Kelly, Geoff Summerfield
Queen Elizabeth Hospital, Gateshead

We presented an audit on the management of deep venous thrombosis (DVT) in out-patients to the Society five years ago. Since then we have expanded the service which is now run by Nurse Practitioners in an assessment area distinct from the Medical Assessment Unit. We have repeated the audit to assess whether the service is more effective.
157 referrals were received over 18 weeks in late 2004 (9 vs 7 per week in 1999). D-Dimer was measured in 147 patients and was >250 (positive) in 107, all of whom were scanned using ultrasound (U/S). Mean D-Dimer was significantly higher in those with DVT (1202) than in those without (621). In total, 30 (18%) of those referred had a DVT, compared to 23% in 1999. An alternative diagnosis was suggested by U/S in a further 24 (15%) of patients and was usually musculoskeletal in origin.
Although the service has been refined and expanded, a diagnosis is only achieved in 33%. We are finding the same number of DVT's as in 1999 (1.7 per week), although the threshold for referral to the service has fallen. Measures already attempted in order to increase the proportion of positive U/S scans include limitation of GP access to the D-Dimer test, telephone screening of GP referrals by Nurse Practitioners, and the use of a referral proforma for GPs.

NON-INVASIVE IMAGING OF THE CORONARY ARTERIES BY CT FOR EXCLUDING SIGNIFICANT CORONARY STENOSES IN PATIENTS REQUIRING AORTIC VALVE REPLACEMENT

J G Crilley, M A Kenny, L Mitchell
Departments of Cardiology and Radiology, Freeman Hospital, Newcastle, UK

Background: It is standard practice to evaluate the coronary arteries in patients with aortic valve disease who are being considered for aortic valve replacement by invasive coronary angiography (ICA). Non-invasive imaging with CT coronary angiography (CTA) now provides good image quality of the coronary arteries with greater safety and lower cost. We studied the value of CTA as compared with ICA in assessing the coronary arteries in this group of patients.
Methods: Twenty-seven patients (mean age 62±14 yrs) underwent both investigations. CTA was performed using multislice CT (Siemens SOMATOM VZ).
Results: The sensitivity, specificity, positve and negative predictive value of CTA was 100%, 88%, 38% and 100% respectively. No patient with a coronary stenosis of >70% that subsequently received a bypass graft was missed by CTA.
Conclusion: CTA is sufficiently sensitive to exclude a stenosis of ≥70% in the 3 coronary arteries in patients with aortic valve disease

Invited Lecture

MITOCHONDRIAL DISEASE: A PROBLEM FOR ALL PHYSICIANS

Professor Doug Turnbull, University of Newcastle upon Tyne

Mitochondria are the energy generating organelles present in all human cells. Mitochondria contain their own DNA which is separate from the nuclear genome. The mitochondrial genome is tiny (16,569 base pairs), is present in multiple copies in the cells and is inherited only maternally. Over the last few years mutations of this genome have been recognised as extremely important causes of inherited disease and are likely to be a major factor in human ageing. Recent studies from the North East of England estimate that a minimum of 1 in 6500 of the population have mitochondrial disease with another 1 in 5000 being carriers or at risk of developing the disease.

Patients with mitochondrial disease may present at all different ages. If the defect is severe, then the onset is in childhood often with severe encephalopathy and lactic acidosis. In adulthood the clinical features are more varied with presentations to many different clinical specialities. Common features include diabetes, deafness, bowel motility problems, muscle weakness, migraine and stroke like episodes. The wide range of clinical symptoms means that patients remain undiagnosed for prolonged periods but important clues are a maternal family history, the association of two symptoms together such as diabetes and deafness, specific patterns of disease, for example subacute onset of blindness in young men. The stroke-like episodes also occur in young individuals, but are often preceded by migraine. Establishing an accurate diagnosis is important for a variety of reasons including that other family members are at risk of developing treatable symptoms.

Whilst the severity of these conditions varies, the course is often progressive. Treatment is to prevent the development of symptoms or correct defects that are present. Different treatments to correct the genetic defect are being considered and one of the most promising is the role of exercise in patients with mitochondrial myopathies. Genetic advice to these families is also crucial and at present is limited to simple advice such that women are at risk of transmitting to offspring, whilst males are not. In the future, pre-implantation genetic diagnosis and even prevention of transmission by manipulation of the oocyte may be possible.

Association Business

Next meeting: Friday 1 July 2005 at 2.30 pm at the University Hospital of North Durham. The Dewar Junior Doctor prize will be awarded for the best non-consultant presentation at the meeting.

Abstracts from Consultants, SpRs, Junior Doctors and Medical Students are all most welcome. Please E-mail (around 150 words) before Thursday 19th May 2005 to Roy.Taylor@nuth.northy.nhs.uk.

Also e-mail the names of any new consultant colleagues, or your own name if you are not on the mailing list, to Roy.Taylor@nuth.northy.nhs.uk.

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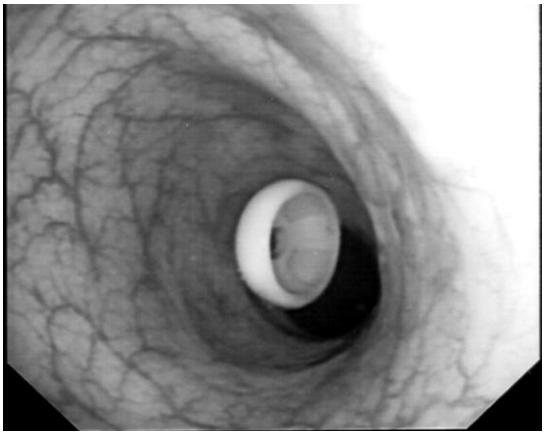

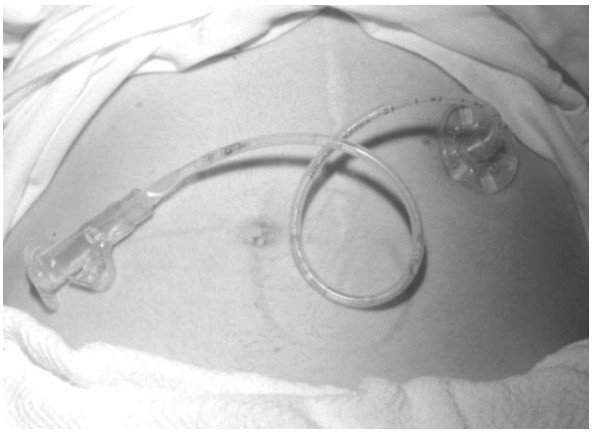

Percutaneous endoscopic colostomy used for colonic irrigation in the treatment of severe constipation– *see Dr Cowley's abstract.*

Abstracts of meeting held at University Hospital of North Durham
Friday 1st July 2005

1st July 2005

POST TIPS HEPATIC ENCEPHALOPATHY 1995-2004.

Steve Masson, Hanan Mardini, John Rose*, Chris Record
Liver Unit and *Department of Radiology, Newcastle

Surgical porta-caval shunting is complicated by hepatic encephalopathy (HE) that negates survival advantage from control of variceal haemorrhage. We have analysed the incidence of HE in 197 patients using trans-jugular intrahepatic porta-systemic shunting (TIPS). 33 patients died within one month and five patients had a liver transplant for liver failure during the same admission. Clinical evidence of HE was identified in 50 patients but 5 were excluded because of persistent alcohol abuse. In six patients HE was only present in the terminal illness. In 8 the development of HE after TIPS contributed to the decision to undertake liver transplant after TIPS but in one of these the shunt had occluded. HE may have contributed to the death of 10 patients.
Clinically important HE developed in only18 of 131 patients (14%). This low incidence of HE could be accounted for by the small shunt diameter which was >10mm in only 7 patients.

NT-pro BNP for the diagnosis of left ventricular systolic dysfunction in primary care. The initial Teesside experience

AJ Turley, AP Roberts, N Rowell, J Drury, MJ Stewart, A Davies.
The James Cook University Hospital.

N-Terminal pro B-type natiuretic peptide (BNP) is released from the left ventricle (LV) in response to wall tension, and may be a useful 'rule-out' test for diagnosis of left ventricular systolic dysfunction (LVSD). As BNP plasma levels are related to LV wall tension, BNP can be raised in conditions other than LVSD.
Aims: 1) To evaluate the impact of BNP testing in primary care on echocardiography and out-patient (O/P) referral rates. 2) To evaluate the predictive value of different BNP reference cut-off values in primary care.
Results: BNP was measured in 1054 patients with clinical symptoms and signs of LVSD. It was elevated (>150ng/L) in 744/1054 patients (71%), 42% male, median age 76yrs (33-100yrs), median BNP value 611ng/L (151-48743ng/L). Of those patients with an elevated BNP, 492/744 (66%) had an echocardiogram.. However in 22% BNP was measured after the echo'. Only 23% of patients with raised BNP were referred to a heart failure clinic, 33% to other clinics. 24% of patients with an elevated BNP were not referred for either echo' or OP appointment.
Conclusions: Stricter guidelines need to be drawn up if BNP is to be used in primary care. BNP is only useful in the 'rule-out' of left ventricular systolic dysfunction. A BNP cut off level of 500ng/L has a negative predictive value (0.93) similar to a BNP cut off level of 150ng/L (0.97) potentially reducing the need for echo' by 50%. But a BNP cut off level of 500ng/l had a +ve predictive value of only 0.3.

THE ROLE OF A SPECIALIST CLINIC DEALING WITH SEVERE CHRONIC CONSTIPATION IN THE NORTH EAST OF ENGLAND.

S Cowlam, T Lee, C Watson, I Bain, P Saunders, Y Yiannakou
University Hospital of North Durham

We evaluated 100 cases referred to a specialist constipation clinic. 88% were female, median age 49yrs and duration of symptoms 10yrs. At referral, 80% were using laxatives, 54% multiple laxatives. Investigation showed "slow colonic transit" in 66%. Rectocoele was identified in 53% of patients who had proctography. The diagnoses were idiopathic in 48%, anatomical 17%, neurological 12%, and irritable bowel syndrome 23%. In the idiopathic group 41% had "slow transit", 39% "obstructed defecation", 20% "indeterminate". 56% responded to laxative manipulation. 19% were referred for biofeedback, 9% for rectal irrigation, 7% for rectocoele repair, 5% for percutaneous endoscopic colostomy (PEC) (see photo), 4% for colectomy or antegrade continence enema surgery (ACE). Managing severe constipation is difficult. Patients are offered laxatives, biofeedback, rectal irrigation, PEC and colectomy/ACE in progression, and rectocoele surgery if appropriate.

ALL-CAUSE AND CARDIOVASCULAR MORTALITY IN DIABETIC SUBJECTS INCREASES SIGNIFICANTLY WITH DECLINING GLOMERULAR FILTRATION RATE-10 YEAR DATA FROM THE SOUTH TEES DIABETES MORTALITY STUDY

S Nag, R Bilous, N Roper, S Jones, W Kelly, V Connolly
James Cook University Hospital

Analysis of cardiovascular outcome trials has shown a close association between estimated GFR and mortality but data in diabetes are limited.
Methods: GFR(creatinine clearance, CC) was calculated in 3288 diabetic subjects(male 56%).Subjects were stratified by baseline CC into 5 groups: >90,60-89,30-59,15-29 and <15.ml/min. Mortality rates, Kaplan Meier estimates and hazard ratios(HR) were calculated.
Results: Median follow up was 10.5 years. 36% had died by 10 years (cardiovascular cause in 60%). Total and cardiovascular mortality increased with declining GFR. Standardised mortality rates (95% CI) in groups 1-5 were 1.54(1.34-1.74), 2.27(2.05-2.49), 3.58(3.26-

3.90), 7.45(5.53-9.36) and 10.43(-4.03 to 24.89) respectively. Adjusted all cause mortality hazard ratios(95%CI) comparing groups 2-5 to group 1 were 0.94(0.77-1.17),1.34(1.04-1.73), 2.37(1.51-3.71), and 7.29 (1-53.03) respectively.
Conclusions: In diabetic subjects, mortality increases significantly with decreasing GFR. Declining GFR identifies patients at high risk of cardiovascular mortality who might be expected to benefit from more aggressive risk factor modification.

MAKING A DIAGNOSIS OF COELIAC DISEASE USING TRADITIONAL TOOLS COMBINED WITH GENETICS: A REPORT OF 2 CASES

Vishal Verma,, Clive Bloxham, Anjan Dhar
Bishop Auckland General Hospital.

Case 1 32 year old man referred with diarrohea for three years. Endomysial antibody was weakly positive. Duodenal biopsies suggested partial villous atrophy but not definite for coeliac disease (CD). DQB1*02 allele was positive. On a gluten free diet (GFD) he had no further episodes of diarrhoea.
Case 2 Aged 35 referred with 6 month's diarrhoea and endomysial antibody strongly positive. A rash was consistent with dermatitis herpetiformis. Duodenal biopsy showed early villous atrophy with heavy lymphoplasmacytic infiltration in the lamina propria and occasional intraepithelial lymphocytosis not thought diagnostic of CD. Both HLA DQB1*02 and DQB1*04 alleles were positive, currently well on a GFD.
A combination of genetic testing with traditional tools can be used to assist diagnosis of CD obviating the need for repeat endoscopies.

A NEW THERAPEUTIC APPROACH FOR RESISTANT PULMONARY WEGENER'S GRANULOMATOSIS

M Rynne, B Roychowdhury, DR Jayne*, PA Mead
Cumberland Infirmary, Carlisle and *Addenbrookes Hospital, Cambridge.

Wegener's Granulomatosis (WG) is a necrotising vasculitis, which affects the upper and lower respiratory tracts and kidneys. 85% of patients eventually develop pulmonary involvement with cavitation occurring in approximately 50%. 10% of WG cases prove refractory to conventional therapy with cyclophosphamide and corticosteroids. Alternative immunosuppressants have been used with varying success. We treated a 25 year old male with resistant, life-threatening pulmonary disease with combination pulsed intravenous rituximab, oral mycophenolate mofetil and steroids. Nine months later, he remains well with no serious infections and significantly reduced pulmonary involvement. Further studies of this therapeutic combination are needed.

ANCA-ASSOCIATED VASCULITIS. A TEN YEAR EXPERIENCE

P A Mead, T Todd and B Bose
Cumberland Infirmary, Carlisle, UK

ANCA-associated vasculitis is rare. The number of cases diagnosed in North Cumbria seemed higher than expected from published data. A retrospective analysis of all requests for ANCA serolgy over a ten year period was undertaken.
Of 5885 requests 583 were positive with multiple request in some patient. Over time there was a dramatic increase in the number of requests. The number of new positive tests also increased. 121 individual patients had positive serology. These patients tended to be older with a peak incidence occurring during the 8th decade of life.
Conclusion The incidence and age at diagnosis of ANCA positive disease are increasing.

CARDIOVASCULAR DISEASE PROGNOSIS AND PLASMA TOTAL HOMOCYSTEINE CONCENTRATION: RENAL FUNCTION MEDIATES THE RELATIONSHIP.

Raymond Meleady, A. Lindgren, G.H.J. Boers, L. Daly, R. Palma-Reis, D. McMaster, J.C. Wautrecht, M-J Medrano, F. Parrot-Roulaud, D. Garcon, E. Holmström, F. Faccenda, R.G. Sheahan, I. M. Graham.
Queen Elizabeth Hospital, Gateshead and elswhere

Epidemiological studies suggest that elevated plasma total homocysteine (tHcy) concentrations increase the risk of cardiovascular disease. This relationship may be explained by confounding factors, such as renal disease.
Design A five-year follow-up study of 647 patients with cardiovascular disease.
Results After 5 years, 32 patients (5%) had died, 17(2.3%) of cardiovascular causes. Raised fasting plasma tHcy concentration was associated with significantly increased total and cardiovascular disease mortality. Adjustment for serum creatinine attenuated the relationship. Serum creatinine concentration was also independently predictive of both total and cardiovascular morality. For each 10 μmol/l increase in serum creatinine concentration, the relative risk of death from all causes was 1.3 and from cardiovascular causes 1.4 following multivariate adjustment which included both fasting and post-methionine load plasma tHcy. The relationship between plasma tHcy concentration and mortality is mediated, at least in part, by renal function, suggesting that tHcy may be a marker of other determinants of outcome. By inference, modifying plasma tHcy concentration may not improve the prognosis of patients with occlusive cardiovascular disease.

MULTI-DIMENSIONAL ASSESSMENT OF THE CLINICAL IMPACT OF COPD DIAGNOSED IN PRIMARY CARE: CAN WE PREDICT MORTALITY?

AD Lawrence, AJ Hildreth, IK Taylor, S Haggerty[1], A Billett[1], NP Keaney
Sunderland Royal Hospital and Sunderland TPCT[1]

Classification of the severity of COPD by guidelines is based on the degree of impairment of FEV_1. From 1999-2002 we identified 626 patients with COPD (51% female) in primary care in Sunderland. We assessed the clinical impact of COPD with a multi-dimensional index, "IDS", that combines **i**mpairment of **S**pirometry, **D**isability (MRC Dyspnoea Score) and **S**ystemic effects (low BMI). Spirometric impairment correlated poorly with IDS which classified 57% of the patients as severely affected compared with17% using BTS criteria.
Overall mortality in the cohort, to January 2005, was12.6% (male 15.6%; female 9.7%; $\chi^2 = 4.97$, $p<0.05$). Kaplan-Meier analyses will be presented.

Invited Lecture

SWITCHING OFF THE IMMUNE SYSTEM

Professor J D Isaacs, School of Clinical Medical Sciences, Musculoskeletal Research Group, University of Newcastle upon Tyne.

Activation of the immune system has to be balanced by mechanisms that subsequently down regulate an immune response. All of us make immune responses against 'self' and a major factor in the pathogenesis of autoimmunity appears to be impaired regulation of such anti-self immune responses. This may explain why, for example, different autoimmune diseases appear in the same family. The fact that one family member has rheumatoid arthritis, another has diabetes and a third has autoimmune thyroid disease is consistent with impaired immune regulation. This raises exciting therapeutic possibilities: harnessing or boosting aspects of our patients' natural but defective immune regulatory mechanisms could permanently switch off their autoimmune disease. Similar therapeutic manoeuvres could lead to organ transplantation without the need for immunosuppression. This is the concept of 'therapeutic tolerance' induction.
It has been possible to achieve 'cures' of autoimmunity in animal models for many years, as well as immunosuppressant-free transplantation. Translation of these findings to the clinic has been slow. For example, successful immunosuppression has made it ethically difficult to attempt tolerance induction in transplant recipients. Similar ethical concerns have meant that immunomodulatory therapies are tested usually in patients with advanced autoimmune disease. Another critical issue has been the lack of identifiable biomarkers that correlate with therapeutic tolerance induction and with which to monitor therapy. Slowly these issues are being resolved: Screening programmes are enabling us to diagnose and treat autoimmunity earlier; situations have arisen whereby transplantation tolerance has been induced and recognised; and considerable resources are being invested in the discovery of appropriate biomarkers. Recently, examples have appeared in the literature whereby autoimmune disease has been switched off for considerable periods using very brief courses of lymphocyte-targeted therapies. Some centres have even succeeded in achieving immunosuppressant-free solid organ transplantation by manipulating the recipients' immune system.
Importantly, clinical outcomes are starting to be correlated with laboratory biomarkers. The availability of robust biomarkers to guide treatment is a major advance and should lead to exponential developments in the field of therapeutic tolerance induction.

Association Business

Next meeting: Saturday 12 November 2005 at 10.00am at South Tyneside District Hospital.
The Dewar Junior Doctor prize will be awarded for the best non-consultant presentation at the meeting. Abstracts from Consultants, SpRs, Junior Doctors and Medical Students are all most welcome. Please E-mail (around 150 words) before Friday 23rd September 2005 to Roy.Taylor@nuth.northy.nhs.uk.
Please e-mail the names of any new consultant colleagues, or your own name if you are not on the mailing list, to Roy.Taylor@nuth.northy.nhs.uk.

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"Translation of the genetic basis of MEN 2 into clinical practice allows preventive thyroid surgery to take place … The current management of MEN syndromes is a striking example of the benefits we can derive from parallel developments in molecular medicine and clinical care and the value of the bedside-bench-bedside cycle."
Dr S Ball

"Polyp detection and removal [when screening for colorectal cancer] has no effect on the incidence of colorectal cancer up to 14 years; at 18 years (when patients will be 78 years old) a 0.5% reduction in colorectal cancer can be demonstrated."
Dr R Arulraj

Abstracts of meeting held at South Tyneside Hospital
Saturday 12 November 2005

12 November 2005

AGGRESSIVE TREATMENT OF HYPERLIPIDAEMIA IN ISCHAEMIC HEART DISEASE: A TIMELY REMINDER.

AJ Turley, I Tresham, RH Smith
University Hospital of North Tees

An 82-yr old male with previous CABG (1992) was admitted acutely unwell. In the 3 weeks prior to admission he had become weak and lethargic. He was jaundiced and in acute renal failure. In the previous 18 months he had been treated for hyperlipidaemia, initially with Simvastatin 40mg and then Atorvastatin 80mg because his cholesterol was still 5.2mmol/L. Prior to admission he was prescribed erythromycin for a lower respiratory tract infection. His creatinine kinase was 16,000 with urine positive for myoglobin. The diagnosis was rhabdomyolysis. He developed multi-organ failure and died 2 weeks after admission.
Conclusion This case highlights the dangers of "recipe medicine". Serum lipid concentration is only one factor determining risk of future cardiovascular events. A balance must be drawn between guideline adherence and clinical risk of the treatment itself, especially in the elderly where long term benefit of aggressive lipid lowering is unclear.

MAKING SENSE OF CONSENT FOR SCREENING FOR COLORECTAL CANCER.

Arulraj R, Trewby PN
Darlington Memorial Hospital

Publicity for cancer screening uses population rather than individual figures even though it is the individual that must choose whether to be screened. Numbers currently quoted are 23% relative risk reduction of colorectal cancer (CRC) and 1200 CRC deaths saved per year. The corresponding figures relating to the individual are: one person is sufficiently harmed to require surgery for every 10 CRC deaths prevented; half of CRC cases will not be picked up by screening: in those with cancer, average survival gain is 1.12 years which translates to average 8.7 days survival benefit from CRC in all screened patients; there is no overall survival benefit; 16% of patients in whom cancer is diagnosed by screening die within 2 years of unrelated causes or post-operative complications so have been disadvantaged by screening; polyp detection and removal has no effect on the incidence of CRC up to 14 years; at 18 years (when patients will be 78 years) a 0.5% reduction in CRC can be demonstrated.
Conclusion: The price of giving a fuller picture of the benefits and risks of CRC screening may be to decrease uptake of screening. But we must decide which takes precedence: fully informed consent for screening or CRC deaths in the population.

ARE JUNIOR DOCTORS GAINING APPROPRIATE EXPERIENCE WHEN ON CALL?

L Thirugnanasothy, J Hamilton and C Kelly
Queen Elizabeth Hospital, Sheriff Hill, Gateshead.

We assessed how on call time was spent at Foundation year 1 and 2 (F1and 2) level. Data were collected using diary sheets split into 30 minute time blocks. Activity and bleep requests were recorded over a 4 week period. 34 forms were recovered from 106 distributed (32%) to each of 28 trainees. 12 different doctors returned forms. During working hours, 90(F1) and 94 (F2) percent of work was patient related, with clerking accounting for 75% and procedures for 17%. By contrast, out of hours 25% (F1) and 18% (F2) of time was spent answering bleeps and 20% of calls were deemed inappropriate at night, rising to 33% over weekends. Inappropriate bleeps included undertaking non urgent ECGs and venflons and routine prescription queries. On average, F1 trainees only clerked 2 patients overnight, while F2 doctors clerked 5.
Conclusion: The experience of on call out of hours is sub optimal with too much time spent dealing with minor issues which reduce the opportunity for acute patient assessment. Further implementation of the 'Hospital at Night'scheme may be needed if learning opportunities are to be preserved.

EARLY EXPERIENCE OF CAPSULE ENDOSCOPY

McPherson S, Davidson C, Panter SJ.
South Tyneside District Hospital

Capsule endoscopy (CE) is a new technique that allows endoscopic examination of the entire small bowel. We reviewed 38 CEs performed since the service was established in June 2004. The indications were GI bleeding (22) , possible Crohn's disease (9), other (7). 29 patients had complete small bowel examination (median transit time 234 mins, range 50-361). A probable source of bleeding was identified in 13 of 22 with GI bleeding. 3 of the 9 patients with suspected small bowel Crohn's had findings consistent with the diagnosis. 1 patient had capsule retention at a stricture although at surgery the capsule had passed.
Conclusion: CE is a safe and effective tool for examination of the small bowel and aids diagnosis in obscure GI bleeding and Crohn's disease.

ALCOHOLIC HEPATITIS IN THE YOUNG: A SIGNIFICANT PROBLEM

M.K. Shariff, T. Housden, M. Hudson, C.P. Day, O.J.W. James
School of Clinical Medical Sciences, Newcastle University & Freeman Hospital.

Alcohol misuse in young people has major consequences for healthcare. We looked at the burden

of severe alcoholic hepatitis in in-patients' ≤ 40 years over 2 years.
17 men and 16 women were identified. 1 year mortality was 52%. 39% died in hospital, 13% died in the year following discharge. Average length of hospital stay was 22 days. 18 patients needed HDU with average stay of 10 days and 15 required ITU with average stay of 7 days.
Conclusions: Alcoholic hepatitis is prevalent in young people, with substantial mortality and remains a significant public health problem.

DIABETIC CHARCOT'S OSTEOARTHROPATHY-"THE GREAT PRETENDER"

ST Wahid, S Tetchner, A Jordan, JH Parr.
South Tyneside District Hospital.

We present 3 patients with diabetic Charcot's osteoarthropathy (CO). A 63-yr-old man presented following trauma with a painful right foot and normal X-ray. He was treated for a ligament strain but 5 months later was correctly diagnosed as CO. A 56-yr-old man was diagnosed as having gout and cellulitis of his foot before the correct diagnosis of left mid-foot CO was made. A 60-yr-old man presented with a swollen left leg and foot thought clinically to be a DVT but diagnosed 2 months later as left foot CO. Review of 14 cases of CO presenting since 2003 showed 2 had been misdiagnosed as gout, 7 as cellulitis, 3 as dependant oedema, 6 as DVT and 6 as suspected fracture.
Conclusion: The rarity of diabetic CO and its tendency to mimic common conditions results in late diagnosis and referral. Physicians should be aware of this as simple treatment can prevent complications.

SEVERE ACCELERATED EMPHYSEMA ASSOCIATED WITH CANNABIS SMOKING

Michael Bone and Richard Cooper
South Tyneside District Hospital.

Large bullous emphysema has been described in association with cannabis smoking but previous cases were predominantly in West Indians with other known confounding factors. We have recently seen 4 cases of severe emphysema occurring prematurely in Caucasian men each with heavy cannabis consumption. Two had the previously described large bullous disease but two had more classical centrilobular disease. All 4 had chest pain. There is a widespread misconception that cannabis is safe and less harmful than cigarettes. Different means of consumption are now used with a variety of contaminating substances and inhalation techniques, which may augment pulmonary damage. All 4 had significant chest pain with gross thoracic overinflation with 3 having been investigated as acute coronary syndrome.
Conclusion: Physicians should be aware of this association which is likely seen more often following relaxation of the drug's classification to a class C substance.

PARENTERAL NUTRITION USE IN THE NORTH-EAST OF ENGLAND

SA Hearnshaw, NP Thompson
On behalf of the Northern Nutrition Network, Freeman Hospital

We describe a 3-month prospective study of parenteral nutrition (PN) in 16 hospitals in north-east England.193 patients received PN for more than 1700 patient PN days. Median duration of PN was 7 days. 29% received PN for less than four days. 32 patients (17%) had *no* evidence of unavailable or non-functioning intestine. Complication rates were highest on medical wards (22%) compared to surgical units (19%) or critical care units (10%).
Conclusions: The majority of patients receiving PN have a clear indication, have no complications and return to enteral feeding. PN on general wards carries a higher risk of complications than on critical-care wards.

STAPHYLOCOCCAL BACTERAEMIA IN GATESHEAD

J Darke, J.Hamilton, C Kelly, .S.Hudson
Queen Elizabeth Hospital, Gateshead.

S.Aureus is the commonest source of gram positive nosocomial infection and causes 38% of cases of bacteraemia. Patients with Staphylococcal bacteraemia spend significantly longer in hospital, require more intensive care input than those without and have a mortality rate of 17-46%. We assessed the rate, management and outcome for Gateshead patients. 181 cases of staphylococcal sepsis were identified between 2001- 2004. 47.5% were caused by MRSA. The commonest sources of sepsis were chest (24%) and prostheses such as venflons, chest drains and CVP lines (19%). Mortality was high. 89% of MRSA bacteraemic deaths were nosocomial infections. Patients who died from MRSA sepsis were more likely to have multiple comorbidities and more likely to have had spent time on critical care wards. Initial treatment of sepsis prior to culture was variable with 18 different antibiotics used. In some cases resuscitation was suboptimal and did not meet the criteria for 'Surviving Sepsis'.
Conclusions: Protocols stipulating regular exchange of venflons are recommended and stricter adherence to antibiotic prescribing policies is required. The need to follow guidelines for managing sepsis was highlighted with prompt IV therapy and use of Critical Care Outreach services.

Invited Lecture

OCCAM'S RAZOR AND HORMONES: MOLECULAR MEDICINE MEETS THE PATIENT

Dr Stephen Ball
Senior Lecturer, Institute of Human Genetics, University of Newcastle upon Tyne

The syndromes of multiple endocrine neoplasia 1 and 2 (MEN1 & MEN2) are autosomal dominant familial cancer syndromes characterised by the development of multiple and metachronous endocrine tumours. MEN1 is associated with loss of function (LOF) mutations in the *MENIN* tumour suppressor gene. Mutations can be detected in some 90% of kindreds with MEN1 and genetic screening within such kindreds is now a standard tool through which to identify at-risk individuals and to effectively screen out those who do not harbour the mutation. This serves to target the population at risk with increased resource and to reduce the social and psychological burden on those that do not require screening.

MEN2 is associated with a spectrum of gain of function (GOF) mutations in the *RET* (**re**-arranged in **t**ransformation) oncogene. *RET* encodes a membrane receptor tyrosine kinase and GOF mutations result in constitutive activation of down-stream signal transduction cascades, leading to deregulated growth and differentiation in tissue derived from neuro-ectoderm and the specific tumours that are characteristic of MEN2: parathyroid adenoma, medullary thyroid cancer (MTC) and phaeochromocytoma. Translation of the molecular genetic basis of MEN2 into clinical practice now allows us to identify those individuals within affected kindreds who are likely to develop MEN2 before they express the disease. This has facilitated the development of clinical management programmes geared to prophylactic thyroid surgery. Importantly, the correlation of specific RET mutations and the age of development of metastatic MTC has enabled intervention tailored for the individual: with preventative surgery taking place in a window that reflects the balance of disease prevention and the morbidity of surgery in the very young.

The current management of MEN syndromes is a striking example of the benefits we can derive from parallel developments in molecular medicine and clinical care and the value of the bedside-bench-bedside cycle.

Association Business

Dewar Research Worker's Prize 2005: This year's Prize has been won by Dr Sath Nag with his entry describing a study of mortality in diabetic subjects in relation to glomerular filtration rate. A dramatic increase in risk with declining quintiles of GFR was identified (standardised mortality rates 1.5, 2.3, 3.6, 7.5, 10.4). Identification of patients with declining GFR indicates likely benefit from aggressive risk factor modification.

Date of next meeting: Saturday 11 March 2006 at 10.00am at Universtiy Hospital of North Tees. Abstracts from Consultants, SpRs, Junior Doctors or Medical Students are all most welcome. Please E-mail abstracts (around 150 words) before Friday 27th January to Roy.Taylor@nuth.northy.nhs.uk.

Also please e-mail the names of any new consultant colleagues, or your own name if you are not on the mailing list, to Roy.Taylor@nuth.northy.nhs.uk.