

ABSTRACTS OF SOCIETIES

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FOUR ORAL ABSTRACTS PRESENTED AT THE SCOTTISH SOCIETY OF PHYSICIANS 49TH ANNUAL SCIENTIFIC MEETING, PEEBLES HOTEL HYDRO 28TH – 29TH SEPTEMBER 2007.

Insulin Resistance: its Association with Endothelial Function and Exercise Capacity in Non-Diabetic Heart Failure Patients

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Background: There is increasing evidence of a reciprocal interrelationship between chronic heart failure (CHF) and insulin resistance (IR). However, the prevalence of IR in the CHF population has not been fully defined. The purpose of this study

was to establish the prevalence of IR among non-diabetic CHF patients and to assess its relation to disease severity. **Methods:** The homeostatic model of insulin resistance (HOMA-IR) was assessed in a cohort of 129 CHF patients; mean age (69.2 ± 10.4 yrs) [range 30-90 yrs], males 76%, CHF of ischemic etiology 82.2% and BMI (27.4 ± 4.4 kg/m²). Patients underwent cardiopulmonary exercise testing and peripheral endothelial function testing by reactive hyperemia peripheral arterial tonometry (RH-PAT). **Results:** Prevalence of IR as defined by Fasting Insulin Resistance Index >2.7 was 61% in CHF patients. There was a significant correlation between IR and serum triglyceride ($r = 0.333$, $P < 0.01$), HDL cholesterol ($r = -0.275$, $p < 0.01$) and central obesity ($r = 0.232$, $p < 0.01$). The degree of IR was related to the exercise capacity and peak oxygen consumption (VO₂). The mean of IR increased significantly with worsening functional NYHA Classes I, II, III and IV [2.1, 2.9, 4.8, 8.9], ($r = 0.437$, $p < 0.01$). The IR patients had a significantly lower exercise duration (340 ± 168.3 vs. 601 ± 265.9 s, $p < 0.01$) and peak VO₂ (6.4 ± 2.3 vs. 14.5 ± 1.7 ml/kg per min, $p < 0.05$). Exercise peak cardiac was lower in patients with IR (5.2 ± 1.2 vs. 9.2 ± 0.89 l/min, $p < 0.05$). In addition, endothelial function as measured by RH-PAT decreased significantly in patients with IR compared to patients with normal insulin sensitivity (1.64 ± 0.36 vs. 2.0 ± 0.53, $p < 0.05$).

Conclusion: These findings suggest that IR is highly prevalent among CHF patients and is associated with decreased exercise capacity in patients with CHF. Targeting IR might represent a new strategy in the treatment of CHF.

Haematopoietic Stem Cells are Recruited into the Liver and Contribute to Hepatic Myofibroblast Differentiation in Alcohol Induced Liver Injury

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Introduction: Haematopoietic stem cells (HSCs) can contribute to multiple epithelial lineages including myofibroblasts in the human liver. HSC mobilisation and migration to injured liver are essential components of this pathway. **Aims:** To study the effect of alcohol liver injury on HSC mobilisation, hepatic recruitment and differentiation into hepatic epithelial lineages. **Patients and Methods:** Peripheral blood samples were collected from patients with alcoholic hepatitis (AH, n=15), paracetamol hepato-toxicity (n=7) chronic liver injury (n=17) and normal controls (NC, n=12). Circulating CD34⁺ HSC levels were quantified. Colony forming unit (CFU) assays were performed on CD34⁺ cells. Cross-sex (x-sex) liver biopsies with AH were analysed for HSC content (CD34⁺) and for markers of myofibroblasts (α SMA), hepatocytes and biliary epithelium. **Results: 1)** The AH group had higher blood CD34⁺ cell levels ($0.195 \pm 0.063\%$, $p < 0.05$) and higher CFU counts (154 ± 38 , $p < 0.05$) when compared with NC ($0.058 \pm 0.008\%$ & 44 ± 28 CFUs). **2)** There were increased numbers of recipient CD34⁺ cells in x-sex donor liver grafts with AH as compared with controls ($1.834 \pm 0.605\%$ vs. $0.299 \pm 0.208\%$ $p < 0.05$). **3)** Increased numbers of recipient α SMA⁺ cells (7.9% - 26.8%) were identified in the AH x-sex liver grafts, whilst no recipient hepatocytes or biliary cells were identified. **Conclusions: 1)** In AH, CD34⁺ stem cells are mobilised into the circulation and display true stem cell potential. **2)** Alcohol liver injury recruits CD34⁺ cells into the liver and significantly contributes to hepatic myofibroblast differentiation.

A Recognition Tool for Transient Ischaemic Attack

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Background: Scoring systems exist to assist rapid identification of acute stroke. No reliable system exists for the more challenging diagnosis of transient ischaemic attack (TIA) yet up to 60% of suspected TIA referrals have alternative diagnoses. We hypothesized that a simple TIA recognition tool could be developed for referring practitioners. **Methods:** We identified variables predictive of a specialist diagnosis of TIA or non-TIA using prospectively gathered data on consecutive TIA clinic referrals. A weighted scoring system for identification of TIA patients was developed using logistic regression analysis. Optimal cut-off points were defined using ROC curves. The scoring system was then validated in an independent prospectively-gathered sample.

Results: The development cohort comprised 3216 patients, of whom 2215 (69%) had a diagnosis of TIA. The logistic regression model included nine clinically useful predictive variables ($p < 0.001$ for each). The regression coefficients were used in the weighted scoring system which accurately identified 90% of TIA and 45% of non-TIA patients. With adjustment to reflect the greater seriousness of missing true TIA patients (a 2:1 cost ratio), 97% of TIA and 24% of non-TIA patients were accurately identified. Both scoring systems performed similarly well on a prospective validation data-set of 237 patients. **Conclusions:** This simple scoring system performs well in comparison with diagnostic instruments for suspected acute stroke and performance may improve if used in conjunction with clinical acumen. Use of the "2:1 cost score" could, for example, cut the number of non-TIA referrals by a quarter with little impact on detection of genuine TIA.

Multicentre Randomised Controlled Trial of Carvedilol versus Variceal Band Ligation for the Prevention of the First Variceal Bleed

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Background: Current therapy for preventing the first variceal bleed includes beta-blocker (BB) and variceal band ligation (VBL). A recent meta-analysis has shown VBL to have lower bleeding rates, with no difference in survival. BB therapy can be limited by side effects (SEs), and there are concerns regarding the safety of variceal band ligation (VBL). Carvedilol, a non-cardioselective vasodilating BB is more effective in reducing portal pressure than propranolol, but to date there have been no clinical studies assessing the efficacy of carvedilol in primary prophylaxis. **Aims:** To compare carvedilol versus VBL for the prevention of the first variceal bleed in a randomised controlled multicentre trial. **Methods:** 152 cirrhotic patients from five different centres with grade II or larger oesophageal varices that have not bled were studied. Patients were randomised to either carvedilol at 12.5 mg per day or VBL, performed two weekly till eradication using a multiband device. The primary end point was the first variceal bleed. Secondary end points were mortality, bleeding related mortality, side effects leading to treatment discontinuation and other adverse events. Intention to treat analysis was performed for all outcomes. **Results:** Over a six year period 77 patients were randomised to carvedilol and 75 to VBL. Baseline characteristics: Alcoholic liver disease, 72%; Child Pugh Score, 8.3 ± 2.6 ; age, 54.1 ± 10.3 years; median follow up, 15.7 months (range 0.16–79.1 months). Patients on carvedilol had significantly lower rates of the first variceal bleed (9% vs 21%; relative hazard 0.41; 95% CI 0.19 – 0.96; $p = 0.04$), with no significant differences in overall mortality (35% vs 37%, $p = \text{NS}$), bleeding related mortality (3% vs 1%, $p = \text{NS}$) and treatment discontinuation due to SE's (12% vs 4%, $p = 0.08$). 6 patients in the VBL group bled as a result of banding ulcers. Significantly more patients in the VBL arm underwent salvage TIPSS (2 vs 8; $p = 0.045$). All patients in the carvedilol group who discontinued therapy due to side effects were changed to VBL, and none have bled.

Conclusions: This is the first study to demonstrate lower bleeding rates with BB therapy for primary prophylaxis compared with VBL. Carvedilol was well tolerated, while VBL had an unfavourable adverse events profile. Carvedilol, along with VBL should be considered for first line therapy in primary

prophylaxis. VBL remains the only alternative in patients intolerant of carvedilol or those unlikely to comply with drug therapy. Careful selection of patients and attention to technique are required to reduce the risk bleeding from the banding procedure.

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Frequency of Asymptomatic Hypoglycaemia in People with Type 1 Diabetes - Does Awareness of Hypoglycaemia Matter?

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PFO and Stroke: What Happened to Patients in South Ayrshire?

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An Investigation of the Clinical and Biochemical Characteristics of Pheochromocytoma in South East Scotland, 1990-2006

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Acute Medical Admissions Critical Care Triaging Tool

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Screening for Mutations in the TGFBR2 Gene in a Sample of Scottish Patients with Marfanoid Features or Thoracic Aortic Aneurysm

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Consequences of Variation in CYP11B2 and CYP11B1 on the Hypothalamic-Pituitary-Adrenal Axis

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Emergency Readmissions to a Scottish District General Hospital

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Audit of Local Management of Primary Hyperparathyroidism – Could the Development of Local Guidelines be Justified?

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The Benefits of Acute Palliative Medicine in Hospital

P Levack, D Buchanan

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What Can we Do to Improve the Experience of Ward Rounds for Patients? A Service Evaluation of the Factors that Influence Doctor-Patient Interactions During Acute Receiving Ward Rounds in Raigmore Hospital, Inverness

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Respiratory Symptoms in Lung Cancer Patients, Adverse Prognostic Factors and Palliative Care Needs

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Hospice Acquired Infection: a Retrospective Audit of Respiratory Infections Acquired within a Specialist Palliative Care Unit

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A Retrospective Analysis on the Use of Antibiotics and Steroids in Suspected Meningitis in Adults Admitted to the Infection Unit in Grampian

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Endothelial Function Worsens with Right Ventricular Pacing

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An Audit of Documentation of Preferred Place of Death for Oncology In-Patients

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Myeloma in CKD: Audit of Glasgow Renal Clinic Screening using Serum Electrophoresis

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Renal Failure in Patients with Multiple Myeloma

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Lunar Effects on Stroke Unit Admissions

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Increased Prevalence of Vascular Risk Factors but Equal Access to Hospital Services in a Deprived Transient Ischaemic Attack Population

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Age Does not Predict Delayed Transient Ischaemic Attack Investigation and Management

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Serum Uric Acid and Stroke Mortality in Patients with Hypertension

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New-onset Diabetes in Hypertensive Patients: an Evaluation of the Association with Drug Therapy and Cardiovascular Mortality

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A Combined Diabetes Renal Clinic in a District General Hospital Improves Risk Factor Management and Slows Progression of Nephropathy

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