



SHARP ANNUAL SCIENTIFIC MEETING

HILTON DUNKELD HOUSE HOTEL

19th/20th NOVEMBER 2015

“MANAGING CARDIOVASCULAR RISK”



SHARP PRIZE

LIST OF ABSTRACTS



Heather Bryceland, Chest Heart & Stroke Scotland

www.selfhelp4stroke.org

Background

We identified a need for an evidenced-based user friendly resource to support self-management following stroke. Acknowledging the increase in use of mobile technology we developed *Selfhelp4stroke*, a free interactive self-management website.

Method

Data from service users (questionnaires (n=74); focus groups (n=6)) informed content development. Analysis identified 5 themes; Self-management/Goal-setting, Keeping Healthy, Being Active, Emotional Support, Coping with Setbacks. Author groups were established (multi-disciplinary clinicians(n=26); researchers (n=5); service users(n=21); 3rd sector representatives(n=8)).

Results

Descriptive statistics will be used to report user metrics e.g. hits, downloads and time on-line. Data from completed user evaluation questionnaires will be reported quantitatively (demographic data) and thematically (qualitative data)

Discussion

Selfhelp4stroke represents an organic progression in the delivery of contemporary and person centred stroke services.



Dr Andrew Chapman, University of Edinburgh

Myocardial injury in patients without suspected acute coronary syndrome attending the emergency department

The true prevalence of myocardial injury in the emergency department population is unknown. In consecutive patients *without* suspected acute coronary syndrome, we evaluated high-sensitivity cardiac troponin I levels (n=1054). Troponin results were not used to guide clinical care. The prevalence of myocardial injury was 12.4% (95% CI 10.3 to 14.6); associated with haemodynamic compromise ($p < 0.01$) and 30-day mortality (HR 1.26, 95% CI 1.06 to 1.49 per doubling of troponin). The majority of patients with evidence of myocardial injury were admitted to hospital. Indiscriminate troponin testing will reduce specificity for myocardial infarction.

Mrs Caitrian Guthrie, Chest Heart & Stroke Scotland

Heart Education Awareness Resource and Training through e-learning (HEARTE), www.heartlearning.org/

HEARTE is an innovative, dynamic, online education tool that has been developed by CHSS and a number of partners in order to improve the educational opportunities of health and social care professionals working with those affected by heart disease in Scotland. The content has involved the expert input of multi-disciplinary professionals and encourages practitioners to apply learning to clinical practice. It is underpinned by key national priorities and current national and international evidence-based guidelines. As a patient-centred resource, HEARTE supports enhancement of the ongoing care and management of individuals and their families. Increased knowledge and understanding of cardiac disease will, potentially, lead to improved outcomes for these patients.



Dr Tania Pawade, University of Edinburgh

Subcutaneous administration of (Pyr1)apelin-13 causes an increase in cardiac index in healthy volunteers.

Introduction

Apelin is a potent, short-acting endogenous peptide with prominent physiological actions in the cardiovascular system. Apelin causes peripheral and coronary vasodilatation, increases cardiac contractility, and has been proposed as a novel inotrope in the treatment of heart failure. Our aim was to track systemic cardiovascular haemodynamics using differing doses and administration routes of (Pyr1)apelin-13.

Methods

Routes of administration were (i) a single subcutaneous injection, (ii) a single intravenous bolus or (iii) a prolonged subcutaneous infusion. Systemic haemodynamics consisted of cardiac index, stroke volume index, blood pressure and heart rate using non-invasive oscillometric sphygmomanometry and thoracic impedance cardiography.

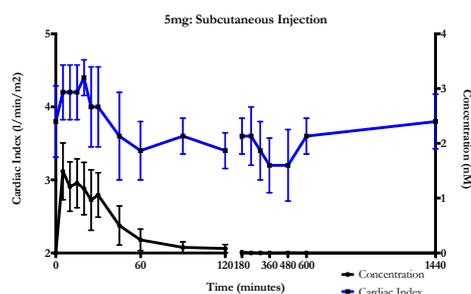
14 healthy volunteers were recruited in total. Healthy volunteers received apelin as a subcutaneous and intravenous injection at one weeks interval, randomly assigned to either 1mg (n=4) or 5mg doses (n=5). Finally, 5 healthy volunteers received 10mg of apelin as a continuous 24 hour subcutaneous infusion. Venous blood and systemic haemodynamic measurements were taken before, and at regular intervals for the following 24h after dose administration.

Results.

i) Single subcutaneous injection of 1mg and especially 5mg of apelin increased serum apelin concentrations (both <0.05). The 5mg dose increased cardiac index for up to 30 minutes; the 1mg dosing did not change recorded haemodynamic variables. ii) Intravenous apelin administration at both 1mg and 5mg doses, caused a short-lived rise in serum apelin concentration but less pronounced than subcutaneous injection route, with no change in systemic haemodynamic variables at either dose. iii) Continuous subcutaneous infusion of 10mg over 24 hours also increased plasma apelin concentrations but did not alter haemodynamic variables.

Conclusion

Subcutaneous administration of 5mg apelin increases both serum apelin concentration and increases cardiac index. This pharmacokinetic profile would appear favourable as a potential therapy for treating patients with heart failure and this study adds further support to the existing body of evidence to support its use.





Mr Dennis Sandeman. Victoria Hospital, Kirkcaldy, Fife

Is it safe to use high sensitivity Troponin T assay for early rule out in patients with suspected Acute Coronary Syndrome?

Background

NICE have recommended a 3 hour “rule out” pathway should be used for patients with suspected myocardial infarction. NHS Fife has recently introduced the Roche HS Troponin T assay into clinical practice and have lowered our threshold for diagnosis of myocardial infarction accordingly. The diagnostic threshold for myocardial infarction using the Roche HS Troponin T assay is 14 ng/L. We use a delta rise of >10 ng/L in our second (peak) sample to determine if any rise is significant.

Method

We looked at all serial Troponin samples taken from A&E, AMU and CCU from Nov 14 to June 15 to determine if those patients with an initial samples of <5 ng/L went on to have a significant rise in their peak sample.

Results

An admission HS Troponin level of <5 ng/L had a 98.7% negative predictive value for significant rise at peak sample.

Conclusion

The Roche High Sensitive Troponin T assay can be used safely as part of an early “rule out” strategy for patients with suspected ACS.



Dr Karen Smith, University of Dundee

Insights into factors affecting attendance patterns in cardiac rehabilitation (CR) of patients with and Acute Coronary Syndrome.

A recent study exploring factors influencing patterns of CR attendance using questionnaires, novel weekly electronic diary data (n=170) and qualitative interviews (n=25) identified high levels of Intention (to attend CR) 1 week post-discharge and an increase in Intention thereafter predicted attendance. Socially deprived participants, current smokers and those with a Non-ST elevation myocardial infarction were least likely to attend. Mood, Illness and treatment beliefs, exercise concerns and practical barriers also influenced attendance. Interviews highlighted a lack of understanding of the purpose, structure and format of CR, the ongoing need for psychological support and access to CR later in their recovery.

Dr Karen Smith, University of Dundee

Turing my life around: the impact of support from Arrhythmia Specialist Nurses

A Specialist Arrhythmia Nursing Service introduced through a British Heart Foundation Innovation Award has improved Cardiovascular Care in relation to the identification and management of Atrial fibrillation, psychological support for patients with implantable cardioverter defibrillators (ICD's) and the support of families with Inherited cardiac conditions. Through collaborative working, improved care pathways, health outcomes and patients/carers experience have been demonstrated. This will be illustrated through an ICD patient's experience, showing the transformation from an anxious, depressed and isolated man with repeated hospitalisations to an individual with the confidence and an ability to live an independent life again.



Mr Bayani Soujeri, University of Dundee

Recent advances in chemotherapy have transformed breast cancer to a survivable condition. However, many surviving patients, succumb on the unintended survivable condition. Current guidelines recommend assessment of LV function thus we conducted a retrospective cohort study of 1263 breast cancer patients over a 10-year period. Imaging modalities including MUGA scans were extracted to identify whether cardiac assessment was carried out at baseline.

The aim of this study was to examine the adherence to guidelines and to observe the number of patient's who developed LV dysfunction during chemotherapy.

Our data showed despite recommendations to monitor cardiac function in all patients, only half of them were monitored. This shows physician decisions may not be adherent to guidelines.

Dr Colin Stirrat, University of Edinburgh

Assessment of Cellular Inflammation after Myocardial Infarction Using USPIO-enhanced Magnetic Resonance Imaging

Purpose: Macrophages are central to the inflammatory response after myocardial infarction (MI) and predict clinical outcome.^{1,2} We examined temporal changes in macrophage activity post-MI using USPIO-enhanced MRI.

Methods: 31 patients were followed-up for 3 months after MI with repeated USPIO-enhanced MRI.

Results: Histology confirmed ingestion of USPIO by macrophages. USPIO hyper-enhancement was detected on MRI in the infarct zone until days 10-16. By contrast, myocardial edema remained detectable until 3 months.

Conclusion: Macrophages can be detected after MI using USPIO-enhanced MRI. This technique can assess myocardial inflammation and has potential application to diagnosis, risk stratification and assessment of therapeutic interventions.

