

Abstracts

# 81st (Spring) Meeting of Ulster Society of Internal Medicine, Friday 15th May 2009

Medical Education Centre, Craigavon Hospital, Portadown



## PROGRAMME:

- 2.00pm Papers I  
3.00pm Invited Abstract: 'Thrombolysis for acute ischaemic stroke' Dr Ivan Wiggam, Consultant in Care of the Elderly Medicine, Belfast City Hospital.  
3.30pm Afternoon Tea  
3.50pm Papers II  
4.15pm Presentation of prize for best abstract  
4:50pm Guest lecture: 'Modern Management of Inflammatory Bowel Diseases'. Dr John Collins, Consultant Gastroenterologist, Royal Victoria Hospital, Belfast

## PAPERS

### S1. Trends in clinical outcome of patients admitted with ST elevation myocardial infarction. Insights from The Heart Centre, Royal Victoria Hospital, Belfast.

NA McKeag, VN Kodoth, AJ Tomlin, SL Fairley, MJ Daly, AAJ Adgey.

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**Background:** A decrease in incidence and major complication rate of ST elevation myocardial infarction (STEMI) has been observed across several population groups.

**Methods and Results:** Information on patients admitted to our centre with STEMI is entered into a computerised database. Data entered between January 2001 and December 2007 were analysed; 945 patients were admitted over this time, 654 (69%) were male with an average age of 63, 291 (31%) were female with an average age of 71. Admissions reduced from 239 in 2001 to 76 in 2007. Thrombolysis was administered to 611 (65%) patients. Inpatient coronary angiography was performed in 878 patients (93%) and 817 patients (86%) underwent percutaneous coronary intervention (PCI). The proportion of patients undergoing coronary angiography and PCI increased from 79% and 61% respectively in 2001 to 99% and 95% in 2007. The overall in-patient mortality rate was 10%, decreasing from 11% in 2001 to 3% in 2007. In total, 102 (11%) patients suffered cardiac arrest, decreasing from 9% in 2001 to 5% in 2007.

Heart failure was noted in 284 (30%) patients, decreasing from 39% in 2001 to 11% in 2007. Major haemorrhage was noted in 41 (4%) patients, decreasing from 4% in 2001 to 0% in 2007. In total, 7 (1%) patients suffered from a stroke. The average hospital stay decreased from 12.4 days in 2001 to 8.8 days in 2007.

**Conclusions:** This study demonstrates decreasing trends in STEMI admissions and major complications in our centre. Recent in-patient mortality rates are low compared to those reported in major registries. This may reflect more aggressive primary and secondary prevention and increased implementation of invasive management strategies.

### S2. 'All in the eyes': basilar tip occlusion, paroxysmal atrial fibrillation and mechanical clot retrieval.

JJ McKinley<sup>1</sup>, E Mawhinney<sup>2</sup>, M Watt<sup>2</sup>, I Rennie<sup>3</sup>, MT McCormick<sup>1</sup>

Department of Medicine, Daisy Hill Hospital, Southern Trust, Newry, UK<sup>1</sup>. Departments of Neurology<sup>2</sup> and Neuroradiology<sup>3</sup>, Belfast HSC Trust, Belfast, UK.

A 73-year-old lady presented with unsteadiness to her local A&E department. She had been well the night before, gone to bed and awoke on two occasions with difficulty on mobilising to the bathroom. Medical attention was sought later that morning. Initial examination in A&E demonstrated a left sided internuclear ophthalmoplegia and controlled atrial fibrillation (AF). She had a recent diagnosis of paroxysmal AF treated with aspirin and beta-blocker. Urgent CT Brain was reported as normal. Her condition fluctuated within hours of admission. She developed an intermittent dense right-sided hemiparesis, one and a half syndrome, dysarthria and fluctuating conscious level. Repeat CT Brain with limited CT angiogram suggested a patent basilar artery with no obvious acute ischaemic changes. The clinical diagnosis was consistent with basilar artery occlusion. In view of the fluctuating course and time to presentation she was not suitable for intravenous thrombolysis. Her case was discussed with the regional neurosciences centre and she was transferred. Multi-slice CT angiography confirmed thrombus in the upper basilar artery and she underwent formal cerebral angiography, mechanical clot retrieval and resultant recanalisation. She made an excellent clinical recovery, remained in hospital for formal anticoagulation and discharged home later that week.

The prognosis of basilar artery occlusion is generally poor. This case demonstrates the potential devastating sequelae of atrial fibrillation, the need for prompt consideration of anticoagulation, limitations in single slice CT imaging, the importance of clinical acumen and the urgency in escalating therapy given the potential to restore circulation by means of novel therapies.

### **S3. Outcome of 64-slice multi-detector coronary CT angiogram when exercise stress test is equivocal or not possible.**

JA Purvis, SM Hughes.

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64-slice coronary CT angiography (64-CCTA) is currently being evaluated for patients at intermediate risk of coronary artery disease (CAD). We analysed data on patients referred to us because of equivocal EST result or technical problem.

Pre-treatment with oral beta-blockade was used to achieve HR<64bpm. Intravenous beta-blocker was given pre-test if required. Sublingual GTN was given to all. A calcium scan was performed then contrast study.

89 patients were referred over 15 months. 53(60%) had an equivocal EST result, 6(7%) had inadequate exercise duration, 15(17%) had mobility problems, 8(9%) had LBBB, 3(3%) had COPD, 2(2%) had hypertension or LVF, 2(2%) didn't want to EST.

All calcium scans were evaluable. 65(74%) patients had mild calcification (Agatston score = 0 – 100), [41(46%) had a score of 0]. 12 had moderate (13%) calcification (Agatston score = 101 – 300) and 12(13%) had severe calcification (Agatston score >300).

In 5 cases, calcium score was too high for contrast study. 84 contrast studies were performed, all were evaluable, 47(56%) patients had normal studies. 23(27%) patients had mild coronary plaque not requiring catheter study. 13(15%) patients had severe coronary plaque and underwent catheter study. Cath agreed with 64-CCTA in 10(77%), 64-CCTA over-called 2(15%) cases and under-called 1(8%).

In conclusion, 64-CCTA can exclude CAD in 56% of this category of patients. In a further 27% non-obstructive plaque is seen. 64-CCTA shows a high correlation with cath findings for severe plaque.

### **S4. The outcome of fixed dose radioiodine (550MBq) in the treatment of relapsed hyperthyroidism**

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Radioiodine is the treatment of choice for relapsed hyperthyroidism although the optimum protocol is uncertain. We assessed the outcome of therapy with radioiodine in relapsed hyperthyroidism using a fixed dose regimen.

We retrospectively studied 449 patients (M: F 82:367;

age range 13-89y, median 42y) treated between 2003 and 2007 with a fixed dose of 550MBq radioiodine for relapsed hyperthyroidism. Patients were classified as Graves' disease, toxic multinodular goitre or indeterminate aetiology. Where patients were on antithyroid drugs these were stopped at least 1 week prior to radioiodine.

One year following radioiodine 334 patients (74%) were hypothyroid, 85 (19%) were euthyroid and 30 (7%) had required a further dose of radioiodine. Patients with Graves' disease were more likely to become hypothyroid than those with toxic multinodular goitre (78% v 37%, p<0.001) whereas the latter were more likely to become euthyroid (55% v 11%, p<0.001). Free thyroxine >80pmol/L at presentation was associated with an increased failure rate (17% compared with 5% and 3% for 40-79pmol/L and <40pmol/L respectively; p = 0.01). Patients with a small / no goitre were more likely to be successfully treated by a single dose of radioiodine (96%) than those with a medium/large goitre (85%, p<0.001). Anti-thyroid medication was taken by 345 patients (77%) (carbimazole n = 319) and was associated with an increased failure rate (8% v 2%, p = 0.027).

In conclusion, a single fixed dose of 550MBq radioiodine is highly effective in treating relapsed hyperthyroidism. The aetiology, severity of hyperthyroidism, goitre size and prior anti-thyroid medication have a significant effect on outcome.

### **S5. PSD502, a novel metered-dose, aerosol formulation of lidocaine and prilocaine, is a safe and effective treatment for premature ejaculation (PE); results of a phase III, randomized, double blind, placebo-controlled study.**

Wallace Dinsmore, Michael G Wyllie, Patricia Heath

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**Introduction and Objective:** Reducing the sensitivity of the glans penis with topical desensitizing agents in men with premature ejaculation may represent a way of improving intravaginal ejaculatory latency time (IELT) without adversely affecting the sensation of ejaculation. PSD502 is a novel aerosol formulation of lidocaine and prilocaine, which selectively desensitizes non-keratinized skin. The objectives of this study were to assess the clinical benefit and safety of PSD502 or placebo in men with PE when applied to the glans penis on an 'as needed' basis. **Methods:** A total of 300 men with primary PE diagnosed according to the recently published ISSM definition (including an IELT of < 1 minute), were randomized from 32 centres in UK, Czech Republic, Hungary and Poland to apply 3 sprays of PSD502 or placebo (double-blind) to the glans penis 5 min before intercourse. Efficacy was assessed by changes in IELT, Index of Premature Ejaculation (IPE; a patient-rated scale of improvement in ejaculatory control, sexual satisfaction, and distress), and Premature Ejaculation Profile (PEP; patient and partner-rated scales of improvement in PE symptoms). Subjects were followed up at intervals for 3 months and offered open label treatment with PSD502 for a further 9 months. **Results:** Preliminary analyses show that PSD502 produced a highly clinically and statistically significant increase from baseline in all three co-primary endpoints. Both groups had a geometric mean baseline IELT of 0.6 min, which increased to 4 min in the PSD502 group compared to 1

min in the placebo group ( $p < 0.0001$ ). There was a 7-point difference between PSD502 and placebo in the IPE domain for ejaculatory control ( $p < 0.0001$ ) and a 6-point difference in the IPE domain for sexual satisfaction ( $p < 0.0001$ ). These positive results were supported by similar improvements in secondary endpoints. There were no serious adverse events and only 2.6% of patients reported treatment-related adverse events in the PSD502 group compared with 1% in the placebo group. PSD502 was well tolerated by both patients and partners, and with no systemic adverse events reported.

**Conclusions:** This large placebo-controlled study indicates that PSD502 is a safe and effective treatment for primary PE, when applied 5 min before intercourse, demonstrating highly significant improvements in IELT and patient-rated improvement scales and a good safety profile in both patients and their partners.

### S6. Takotsubo cardiomyopathy in preoperative patients with pain: a report of two cases

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Reversible stress-induced cardiomyopathy, i.e. Takotsubo cardiomyopathy, rarely presents in preoperative patients. We provide the case reports of two patients who presented to hospital with uncontrolled pain from an acutely ischaemic limb and femoral neck fracture, with an absence of chest pain. Electrocardiogram revealed dynamic T-wave inversion, with peak Troponin-T elevation in each case, i.e. 0.66ug/L and 0.14ug/L (NR  $< 0.03$ ug/L). Despite these findings consistent with acute myocardial infarction, neither patient had obstructive coronary disease at angiography. Left ventriculography at this time showed moderate systolic functional impairment with apical ballooning. This feature is pathognomonic of the Takotsubo syndrome, which we surmise was due to excess endogenous catecholamine production in response to acute pain in these patients. All features of ventricular dysfunction had resolved completely at repeat echocardiography two-weeks later, following definitive vascular/orthopaedic surgery to their lower limbs.

Patients with Takotsubo cardiomyopathy have been shown to possess higher catecholamine levels than patients with myocardial infarction in the same Killip class<sup>1</sup>. Apical myocardium is particularly receptive to sympathetic stimulation, resulting in characteristic ballooning as seen in our patients. Furthermore, catecholamine stress-injury is likely to be present in a number of disorders whose common phenotypic expression is that of regional wall motion abnormality, e.g. subarachnoid haemorrhage, pheochromocytoma, acute asthma and Guillain-Barré syndrome.

Treatment of Takotsubo cardiomyopathy remains largely

pragmatic, with standard supportive care and treatment of complications, e.g. pulmonary oedema. Recent reports attribute 12% of all cases to non-cardiac surgery/procedures and 4% to skeletal fractures<sup>2</sup>. Although this syndrome remains uncommon, it should be considered in any patient with symptoms suggestive of an acute coronary syndrome, when the electrocardiographic changes are disproportionate to the cardiac enzyme rise, and particularly those in acute pain.

<sup>1</sup> Wittstein IS, Theimann DR, Lima JA, *et al.* Neurohumoral features of myocardial stunning due to sudden emotional stress. *New Eng J Med* 2005;352:539-48. <sup>2</sup> Elesber AA, Prasad A, Lennon RJ, Wright RS, Lerman A, Rihal CS. Four-year Recurrence Rate and Prognosis of the Apical Ballooning Syndrome. *J Am Coll Cardiol* 2007;50:448-52

### S7. Day Case Percutaneous Coronary Intervention in Selected Patients – A Pilot Study in Northern Ireland

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Further to the development of intracoronary stents post-procedural complications rates after percutaneous coronary intervention (PCI) are low. Acute complications post-PCI occur almost exclusively within six hours<sup>1,2</sup>, therefore day case PCI is both feasible and safe.

Day case PCI has been performed in Craigavon since November 2008. Patients are discharged after 6 hours if there has been a successful PCI (TIMI 3 flow and  $< 20\%$  residual stenosis of the target lesion) and they meet criteria for same day discharge. Exclusion criteria include: unstable patients (ischaemia or loss of a side branch  $> 1$ mm, instability during the PCI or LVF), any vascular complication or a sub-optimal technical result.

The first 100 cases are presented: 71% were male; mean age was 64 (range 42-84 yrs). LV function was severely impaired in 2% and moderately impaired in 16%. A total of 105 lesions were treated, 46% of which were high risk (AHA/ACC classification) and 36% moderate risk. A total of 129 stents were deployed, 78 (60%) of these were drug eluting. To date, 30-day follow-up is available for 70 patients. There have been no major adverse cardiac events (death, MI, CVA) or other adverse events (repeat angiography/PCI, contrast induced nephropathy, CK rise  $> 2$ x the upper limit of normal). Follow-up for all 100 cases will be presented at the meeting. The total cost saving from preventing a single overnight stay for each patient is £47,100.

Day Case PCI in selected cases is safe, feasible and offers substantial cost savings to the local health service.

<sup>1</sup>Small A, Klinke P, Della Siega A *et al.* Day Procedure intervention is safe and complication free in higher risk patients undergoing transradial angioplasty and stenting. The Discharge Study. *Catheter Cardiovasc Inter* 2007;70:907-12. <sup>2</sup>Koch KT, Piek JJ, Prins MH *et al.* Triage of Patients for short term observation after elective angioplasty. *Heart* 2000;83:556-563.