

MEETING ABSTRACTS

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ORAL PRESENTATIONS

01

Optimizing weight loss outcomes for bariatric surgery patients: the role of physical activity

R Boddu*, E Wilson, B Snyder, TD Wilson
University of Texas, Houston, USA
BMC Proceedings 2012, **6**(Suppl 4):O1

Introduction: The effect of physical activity on the weight loss outcomes post bariatric surgery is not well understood. This study set out to determine if there was a correlation between physical activity levels of patients and their percent excess weight loss following bariatric surgery.

Methods: Utilizing the bariatric clinic's database 261 participants were identified who underwent bariatric surgery between June 2008 and June 2009. GPAQ (version 2) questionnaire developed by the WHO was chosen as the tool to assess and quantify the physical activity levels. In accordance with the GPAQ guidelines, the MET minutes and the total physical activity levels were calculated. Percent excess weight loss values found in the clinic database were gathered from the follow up visits of the participants.

Results: A total of 125 (57.0%) patients participated in the study. The demographics being, mainly female (258; 98.8%) and Caucasian (148; 56.7%). Surgeries included predominantly lap-band (110; 42.1%); roux-en-y gastric bypass (94; 36%); and sleeve (20; 7.6%). When stratified by low, medium and high physical activity levels, all three groups showed an increasing percent excess weight loss over time during the six months postoperative period (mean: 17.99 to 20.02 at one month versus mean 35.93 to 40.67 at six months). However, there was no correlation between the physical activity levels or the MET-minutes and the percent excess weight loss in the study group as a whole or when stratified by the surgery type.

Conclusions: Our cross-sectional study failed to demonstrate a correlation between physical activity levels and percent excess weight loss in post bariatric surgery patients. Further prospective studies including other variables such as, percent fat loss, lean body mass values, preoperative physical activity levels, and caloric intake are recommended to gain a better understanding of the role played by physical activity levels in percent excess weight loss outcomes of bariatric patients.

02

Abstract withdrawn

BMC Proceedings 2012, **6**(Suppl 4):O2

03

Complications of the anterior retropharyngeal surgical approach to the degenerative cervical spine

S Mihaylova*, D Ferdinandov, K Ninov, A Bussarsky, V Karakostov, K Romansky, M Marinov, V Bussarsky
Medical University-Sofia, Bulgaria
BMC Proceedings 2012, **6**(Suppl 4):O3

Introduction: Anterior cervical retropharyngeal approach for decompression of neural structures is well known and considered as an effective surgical procedure. Opportunities for segment fusion or discectomy for motion preservation are granted. Both conceptions have their advantages and disadvantages separately from risks of the surgical approach. The aim of this study is to present and analyze the complications of the anterior retropharyngeal surgical approach to the degenerative cervical spine.

Methods: A database of treated patients at the Clinic of Neurosurgery, Sv. Ivan Rilski Hospital, Sofia, Bulgaria, between January 2006 and August 2011 with cervical spine pathology was used. Certain inclusion and exclusion criteria were applied to select 398 patients with a total of 434 procedures. Comparisons and analysis were done using the observed and recorded initial and follow-up data.

Results: We present results for intra- and postoperative complications such as dural tears, infections and haemorrhages as well as non-surgically related events. An analysis of risk factors is performed. Risks for adjacent segment degeneration are discussed in details.

Conclusions: We conclude that the adverse events related to the implant or implantation among groups is not different given the similarity in techniques and treatment course between applied procedures. The most clinically relevant to a patient's quality of life is the adequate decompression of neural structures and expertise based on the patient's individuality.

04

A curriculum map of colorectal surgery: an assessment of training expectations and the reality

C May
University of Manchester, UK
BMC Proceedings 2012, **6**(Suppl 4):O4

Introduction: There are national guidelines for the curriculum of each surgical specialty, encompassing set competencies and attitudes expected of trainees at each level. Conventionally assessment is based on the

trainee and not delivery of the curriculum. By performing the curriculum map it reviews the trainees' ability and also the quality and breadth of delivery by seniors.

Methods: The initial phase involved comparing trainees expected skill level against their subjective competency in a number of areas. Data was then collected, covering a twelve month period, tallying the number of elective procedures carried out. By comparing this data against expected trainee progression it was possible to assess if there was adequate exposure for such a level to be achieved.

Results: The subjective data collected from the trainees themselves suggested they were comfortably achieving the set competencies within their training band. Despite collecting data across four consultants elective theatre lists there were a number of procedures, detailed within the set curriculum, that had not been performed during the twelve month period. Alongside this there were a number of procedures that were performed in such low numbers that trainees would not receive adequate exposure and training opportunities.

Conclusions: Conducting the curriculum map highlighted key areas where trainees might be missing out on valuable learning opportunities which potentially may not have been picked up on until formal assessment. The methods used for conducting a curriculum map are not without flaws though. Using data that requires subjective assessment of skills can lead to false beliefs about efficacy of curriculum delivery. Ultimately it is therefore essential that formal trainee assessments are running concurrently with curriculum maps at each site.

05

Evaluation of patient satisfaction with the day surgical services in an Irish teaching hospital

YH Soon*, G Gethin, B Meshkat, TN Walsh, S Cowman, M Wiley, A Brick, E Clarke

Royal College of Surgeons in Ireland

BMC Proceedings 2012, 6(Suppl 4):O5

Introduction: Advancements in surgical techniques and anaesthetic agents in recent decades have allowed for the rapid expansion of day surgical services internationally. The aim of this study is to evaluate the patient's satisfaction (PS) with the day surgical services in an Irish teaching hospital.

Methods: The study design was a survey, utilizing a phone questionnaire. 70 consecutively presenting patients undergoing 15 day surgery procedures in an Irish teaching hospital were invited to participate. Data collection was completed between June and July 2011. The survey evaluated 57 aspects of the DS process. Patients were asked to rate their level of satisfaction using a 5-point LIKERT scale ranging from 1-very dissatisfied to 5-very satisfied.

Results: 70 patients consented to study participation, of which 85.57% (n=60) responded when phoned. Of these; 40% (n=24) male, 60% (n=36) female, mean age 47 years (range 17-84 years), 50% (n=30) had local anaesthetic procedures (LA) and 50% (n=30) general anaesthetic procedures (GA). Pre-operatively, patients were least satisfied with the waiting time: 35.59% (n=21) very satisfied; while 66.66% (n=40) were very satisfied with the nursing staff. 81.66% (n=49) of the patients were very satisfied with the medical care provided. Post-operatively, 94.44% (n=51) were very satisfied with the follow-up arrangements. However, only 54.55% (n=24) were very satisfied with the time taken to obtain results for x-rays and other tests. Regarding the supporting structures to the day surgery unit (DSU), patients were most satisfied with the cleanliness of the unit, where 86.66% (n=52) were very satisfied, while only 39.13% (n=18) were very satisfied with parking arrangements. Additionally, 84.21% (n=57) were very satisfied with the information leaflet regarding the procedure.

Conclusions: Overall, patients were very satisfied with the care provided and service provision in the DSU. As day surgery services are expanded into the future, this study provides valuable insights into the current areas for improvement and development. Although the methodology used was very labour-intensive, the response rate was very high. Higher recruitment through e-mail or text messaging could have proven to be more time saving and cost efficient. However this might be at the expense of lower response rates.

06

Improving recording of capacity to consent and explanation of side effects of medication in a large inner city service for adults – audit findings

A Roy*, S Jain, F Ward, C Richings, M Martin

University of Manchester, UK

BMC Proceedings 2012, 6(Suppl 4):O6

Introduction: GMC Guidelines illustrate the importance of documenting key elements of a consultation such as side effects of medication and an assessment of patient's capacity. Not documenting this information makes a clinician liable if complications arise as there is no evidence of a discussion taking place. Do clinicians document this important information? Our aim was to look for evidence of:

- 1) An assessment of patients capacity to consent.
- 2) A discussion taking place regarding side effects.

This was from 6 Consultant teams. We also looked to evaluate the effect of measures introduced to improve practice.

Methods: An audit was conducted in 2007, repeated in 2008 and 2009 using 156 case notes from each 6 Consultant team, looking for evidence of recording of the 2 sets of information. Results were given after each audit cycle to the Consultants, along with recommendations

Following the re-audit in 2008 a rubber stamp was introduced prompting clinicians to record these discussions. The stamp was part of the service quality framework and a target of 90% adherence was set. Compliance with the stamp was recorded in the 2009.

Results: Rates of recording of capacity rose from 30% in 2007 to 51% in 2009. (P=0.000006). Rate of recording of discussion about side effects was consistently higher than that of capacity showing little change between cycles, increasing from 71% in 2007 to 76% in 2009. The stamp was used in 60% of clinical encounters from 2008 - 2009. Capacity was more likely to have been recorded if the stamp was present (odds ratio 13.5 p<0.0001).

Conclusions: The introduction of a stamp was associated with improvements in the recording of capacity to consent but had little effect on recording of discussions on side effects. This would suggest that the use of visual cues had improved compliance; clinicians became more efficient in documenting this important information. The audit was successful in improving practice within the 6 Consultant teams.

A possible limitation is that recommendations were given by medical students which may not have been taken as seriously as if given by a more senior body.

07

Non-pharmaceutical approach to managing behavioural disturbances in patients with dementia in a nursing home setting

L Hughes*, L Adams

University of Dundee, UK

BMC Proceedings 2012, 6(Suppl 4):O7

Introduction: There are approximately 750,000 people in the UK with dementia with many being cared for in a nursing home environment. Dementia patients often exhibit significant mental state disturbances including confusion, agitation and aggression and these may be provoked or exacerbated by many external factors. In this study we hypothesised that optimising the sensory awareness of residents to their environment would be beneficial and reduce the number of documented aggressive episodes [including verbal and physical abuse to staff and other service users].

Methods: During this 3-month study (February – April 2011), the care team documented the number of aggressive episodes in a 60-bed private nursing home unit in Dundee, Scotland before, during and after the implementation of the following changes:

- A) Residents had their hearing aids and glasses checked, cleaned and fitted on a daily basis to maximise the resident's sensory awareness.
- B) Living conditions were altered with improved lighting and signing. Information regarding all behavioural incidents was obtained from handover sheets and daily progress notes within the residents care plans over this 3-month period. The gross number of incidents and the number of incidents per service user was documented.

Results: Following the implementation of this social care program, the number of documented aggressive episodes reduced throughout the study period with an overall reduction of 25%. This was accompanied by a reduction in the severity of injuries associated with these incidents with no hospital admissions compared to three prior to the changes implemented by the study. Interestingly, residents noted to be particularly aggressive did not respond as well to the non-pharmaceutical changes.

Conclusions: The research concluded that simple non-pharmaceutical measures aimed at maximising the ability of residents to sense their environment could reduce aggression. This strategy does not have the side effects of neuroleptic drugs that are commonly used to control behavioural problems in dementia patients. Importantly, the study has suggested that residents can be selected for neuroleptic prescription in line with their response to a non-pharmaceutical program. Further work is required to determine if these findings can be reproduced in other homes and hospitals in the UK.

08

How commonly do children with cerebral arteriopathy have renovascular disease?

A Willsher^{1*}, D Roebuck², J Ng³, V Ganesan¹

¹Neurosciences Unit, UCL Institute of Child Health, London, UK; ²Radiology Department, Great Ormond Street Hospital for Children, London, UK;

³Neurology Department, Great Ormond Street Hospital for Children, NHS, London, UK

BMC Proceedings 2012, 6(Suppl 4):O8

Introduction: Cerebral arteriopathies, including moyamoya (MM) may be part of a systemic arteriopathy. However, patients presenting to neurologists are not routinely evaluated for this. We report the yield of renal angiography in a group of children undergoing catheter cerebral angiography for evaluation of cerebrovascular disease.

Methods: Children presenting to our neurovascular service and who had had cerebral and renal angiography, other than those with a final diagnosis of vasculitis, were eligible for inclusion. Cerebrovascular disease was categorized MM or other occlusive cerebrovascular disease (OCVD) using standard definitions. Case notes, imaging reports and renal angiograms were retrospectively reviewed. Hypertension (HT) was defined as ≥ 3 systolic blood pressure (SBP) readings ≥ 95 th percentile.

Results: Thirty-two children (median age 5.9y, 12 male, 18MM, 14 OCVD) were included. Clinical presentation was arterial ischaemic stroke/transient ischaemic attack in 30, with cerebral infarction in 29. 5 had also clinically presented with hypertension. Renovascular abnormalities were identified in 16 patients - main renal artery (RA) stenosis in 10 (6 OCVD, 4MM), branch RA abnormalities in 5 and peripheral abnormalities in 9. 6 children had multi-site abnormalities. There was no significant difference in the frequency of main RA disease in the MM and OCVD groups ($p = 0.21$). Of the 27 children with purely neurological presentations; main RA stenosis was seen in 5 and branch/peripheral abnormalities in 10. 5 children had multi-site abnormalities. Based on a median of 5 SBP readings/patient 14 met the definition for HT. Overall BP was poorly recorded and had never been plotted on centile charts in these patients.

Conclusions: Renovascular abnormalities were common in this group of children with cerebrovascular disease and predominantly neurological presentations. Its clinical correlates were poorly assessed and recorded. Neurologists should be alert to potential systemic involvement and its sequelae in children with cerebral arteriopathy.

09

TNF gene deletion prevents lipopolysaccharide-mediated sensitisation of the neonatal mouse brain to hypoxic-ischaemic insult

A Sahota^{*}, G Kendall, S Lange, G Raivich

Perinatal Brain Repair Group, Institute for Women's Health, University College London, UK

BMC Proceedings 2012, 6(Suppl 4):O9

Introduction: An increasing body of evidence suggests a synergistic link between infection/inflammation and hypoxia-ischaemia in the pathogenesis of perinatal brain injury. Deletion of the TNF cytokine gene cluster (TNF, LT α and LT β) has previously been shown to abolish

lipopolysaccharide (LPS)-mediated sensitisation of the developing brain to hypoxic-ischaemic (HI) insult. In this study, I investigated if single TNF and LT β gene deletions prevented LPS-sensitised HI brain injury.

Methods: Postnatal day 7 mice homozygous for either TNF or LT β cytokine gene deletions received either 0.3mcg/g LPS or saline by intraperitoneal injection 12 hours prior to 30-minute HI insult. Coronal forebrain sections were examined for brain injury using Nissl stain and microglial activation using the activation marker α MP2 intergrin (α M). Injury was scored in ipsilateral grey matter regions and external capsule white matter (ipsilateral and contralateral). Values given are mean \pm SEM and data was analysed for significant differences using unpaired two-tailed Student's t-test.

Results: Pre-treatment with LPS in wild-type mice ($n=13$) resulted in significantly increased overall brain injury (0.96 ± 0.17 v 3.11 ± 0.44 , $p < 0.05$) and α M expression across all assessed ipsilateral forebrain regions ($p < 0.05$) compared to saline pre-treated controls ($n=13$). TNF knockout animals pre-treated with LPS ($n=14$) did not show a significant difference in overall brain injury (2.82 ± 0.50 v 2.90 ± 0.57 , $p = 0.91$) or regional α M expression compared to saline controls ($n=13$). Wild-type animals from the LT β breeding group did not exhibit increased overall brain injury in response to LPS pre-treatment ($n=4$) compared to saline controls ($n=4$).

Conclusions: Deletion of the TNF cytokine gene prevents lipopolysaccharide-mediated sensitisation of the neonatal brain to hypoxic-ischaemic insult. Sensitisation to LPS was not seen in the wild-type animals in the LT β strain, which could suggest possible spontaneous mutation of the gene(s) responsible for LPS response in the strain used. Future work into the effects of LT α and LT β gene deletions, cell-specific gene deletions and pharmacological inhibition of cytokines may help further the understanding of the mechanisms involved in endotoxin-sensitised HI brain injury and provide possible therapeutic options to minimise injury to the developing nervous system.

010

Understanding the etiology of ventral body wall defects

H Ghorab^{1*}, J Thompson²

¹Royal College of Surgeons in Ireland-Bahrain; ²University College Dublin, Belfield, Dublin 4, Ireland

BMC Proceedings 2012, 6(Suppl 4):O10

Introduction: Ventral body wall (VBW) defects are observed in 1 in 3000 births. The main types of defects include body wall dysplasia, gastroschisis, omphalocele and primary thoracoabdominoschisis. There is little evidence suggesting that genetic changes are associated with these defects. An important number of these occur as a result of exposure to chemical pollutants or radiation. In this project chick embryos exposed to cadmium were used as a model of VBW defect. The project aimed to identify when the ventral wall in chicks is fully closed and to investigate the migration of different cells and tissues in normal control embryos and compare it to embryos exposed to cadmium.

Methods: Fertile eggs were collected from a local hatchery. The embryos were placed in an incubator set at 37°C, cadmium was administered ex ovo. The embryos were then fixed in 4F1G solution for at least 24 hours, following, the embryos were processed in paraffin wax which is firm enough to support subsequent cutting. The blocks were sectioned and attached to slides using a microtome. Finally the slides were stained using hematoxylin and eosin stains, hematoxylin stains the nuclei in a blue/black color whereas eosin stains cell cytoplasm and most connective tissue fibers in shades of pink, orange and red.

Results: Gross anatomical differences between the controls and cadmium treated embryos were present, such as protrusion of abdominal contents out of the abdomen as well as abnormal body axial development. Microscopic differences include a large notochord, an underdeveloped dermomyotome and a disorganized sclerotomal migration.

Conclusions: VBW defects are uncommon however if present they may lead to an increase in neonatal morbidity and less frequently mortality. We have shown through this project that cadmium induced gross and microscopic anatomical defects in chick embryos. These findings imply that vertebral malformation may occur due to abnormal development of the somites giving rise to body axial deformity, which may directly contribute to primary VBW defects. Additional research is warranted to demonstrate pathways, which may be involved in normal formation of the ventral body wall.

011

The role of epigenetics and miRNAs in neuroblastoma development

KV Rupani^{1*}, S Das^{1,2}, RL Stallings^{1,2}

¹Department of Cancer Genetics, Royal College of Surgeons in Ireland;

²Children's Research Center, Our Lady's Children's Hospital, Crumlin, Ireland
BMC Proceedings 2012, **6**(Suppl 4):O11

Introduction: Neuroblastoma (NB) is an often fatal pediatric cancer that arises from the precursor cells of the sympathetic nervous system. 13-Cis retinoic acid is used to treat high-risk disease. A derivative, all-trans-retinoic acid (ATRA) causes genome-wide demethylation in NB cells by up-regulating miRNAs such as miR-152 and miR-26a/b which are predicted to target the methyltransferases *DNMT1* and *DNMT3b*, respectively. The purpose of this study was to test whether ectopic over-expression of miR-26a/b, a known tumor suppressor miRNA in several other cancer types, led to reduced cell viability and *DNMT3b* expression in SK-N-BE NB cells. In addition, we also carried out a methylated DNA immunoprecipitation to microarrays following miR-152 over-expression in SK-N-BE cells in order to assess whether the ectopic over expression of miR-152 had any effects on genome-wide methylation.

Results: Results showed that reduced miR-26a/b expression correlates to poor survival in patients with NB. We investigated the possibility of epigenetic factors that could control miR-26a/b expression in NB cells by treating the cells with a DNA-demethylating agent (5'-Aza-2 deoxycytidine). We did not observe any significant re-expression of miR-26a/b after application of the drug. It was further shown that ectopic over-expression of miR-26a causes a down-regulation of *DNMT3b* mRNA. Cell viability assays carried out following ectopic over-expression of miR-26a supported its possible involvement in reducing cell growth levels 96 hours post-transfection. Using the SHEP-TET NB cell line system, a *MYCN* induced repression of miR-26a/b in NB was also ruled out. Genome-wide methylation analysis following over-expression of miR-152 revealed genes that display overlapping methylation patterns as seen with ATRA treatment alone, thus allowing the identification of genes that are possibly controlled by miR-152 following suppression of *DNMT1*.

Conclusions: Having ruled out DNA methylation and *MYCN* as significant regulators of miR-26a/b expression during NB differentiation, we propose that other transcription factors and/or retinoic acid directly may regulate this microRNA. In addition we have identified several genes that are epigenetically regulated through the action of miR-152 and warrant further follow up to determine their importance in NB differentiation.

012

Abstract withdrawn

BMC Proceedings 2012, **6**(Suppl 4):O12

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013

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BMC Proceedings 2012, **6**(Suppl 4):O13

014

Inhibition of IGF signalling pathway in MDA-MB-231 triple negative breast cancer cells

S Chandran^{1*}, JH Harmey², S Toomey²

¹School of Medicine, Royal College of Surgeons in Ireland; ²Molecular and Cellular Therapeutics, Royal College of Surgeons in Ireland

BMC Proceedings 2012, **6**(Suppl 4):O14

Introduction: Triple-negative breast cancer (TNBC) is characterised by the absence of estrogen receptor (ER), progesterone receptor (PR) and the

HER-2 receptor. TNBC is typically associated with a poor prognosis due to aggressive tumour phenotypes, partial response to chemotherapy, and current lack of clinically validated targeted therapies. Insulin-like growth factors (IGFs) stimulate cell proliferation and promote cell survival via receptor phosphorylation and activation of adaptor proteins such as mitogen-activated protein kinase (MAPK), and Akt. The overall aim of this project was to characterise the expression and activation of the IGF signalling pathway in the MDA-MB-231 TNBC cell line.

Methods: Expression of steroid and growth hormones and activation of the IGF signalling pathway in MDA-MB-231 cells was analysed by western blotting, while expression of PAPP-A was detected by PCR. The effect of stimulation with IGF1 or inhibition of EGFR/IGF1R tyrosine kinase activity on proliferation was determined by the MTS cell proliferation assay. Proliferation was expressed relative to untreated controls, and data was analysed by ANOVA with Tukey's multiple comparison post hoc test.

Results: MDA-MB-231 cells express epidermal growth factor receptor (EGFR) and low levels of HER3, and were confirmed as negative for ER, PR and HER2. IGFBP4 inhibits IGF1 activity but cleavage by pregnancy associated plasma protein A (PAPP-A) protease releases active IGF1. MDA-MB-231 cells express high levels of insulin-like growth factor binding protein 4 (IGFBP4), and low levels of PAPP-A. Moreover, MDA-MB-231 cells express type I IGF1 receptor and proteins along the IGF signalling cascade; namely, Erk and Akt. The presence of phosphorylated forms of these proteins shows activation of the IGF1R signal transduction pathway in MDA-MB-231 cells. Proliferation was increased by IGF1 (E3R) (recombinant IGF1, resistant to binding by IGFBPs). Inhibition of EGFR tyrosine kinase activity or IGF1R tyrosine kinase activity inhibited proliferation of MDA-MB-231 cells and a similar effect was observed with dual inhibitors of PI3K/mTOR or Akt/ P70S6K.

Conclusions: These results suggest that the IGF1 signalling pathway is activated in MDA-MB-231 TNBC cells. Therefore, inhibition of the IGF1R and/or its downstream targets may be of benefit in the treatment of TNBC.

015

Producing and evaluating a novel lentiviral vector for β -thalassaemia gene therapy

Y Bokinni, V Kao, M García-Gómez, M Antoniou*

King's College London, School of Medicine, Department of Medical and Molecular Genetics, UK

E-mail: Michael.antoniou@kcl.ac.uk

BMC Proceedings 2012, **6**(Suppl 4):O15

Introduction: The β -haemoglobinopathies are of the most prevalent inherited disorders worldwide. β -thalassaemia is a single gene disorder affecting the β -globin gene, thus resulting in a lack or depleted availability of β -globin for formation of haemoglobin. β -thalassaemia has become a target for gene therapy based treatments in hope of a cure, or significant phenotype amelioration. The technique aims to treat the haematopoietic stem cells (HSC) of patients with the viral vectors *ex vivo*, in the hope of significant β -globin mRNA transcript production on HSC erythroid differentiation post re-transplantation. Numerous investigations have been conducted in the use of Lentiviral vectors harbouring human β -globin transcription units, only one of which has proceeded into clinical trials (Cavazzana-Calvo, Payen et al. 2010). The ultimate aim of all 'construct' designs is to present significant phenotype amelioration with an average of one vector copy number (VCN) per HSC.

Methods: Antoniou's group have recently devised a number of "GLOBE" constructs based on previous functional studies with the inclusion of regions physiologically present within the endogenous β -globin gene, previously deemed insignificant, and therefore, omitted from to all known published constructs to date. Previous observations with gammaretroviral vectors had determined the inclusion of the full β -globin 2nd intron to be highly detrimental to viral production and quality (Leblouch, 1994). Based on recent findings, the inclusion of a transcriptional terminator region and full 2nd intron have been added, yielding the latest generation of Lentiviral vector constructs (GLOBE-2 and GLOBE-4). The aim of this project was to produce these Lentiviral vectors and conduct a comparative expression analysis via transducing Murine erythroleukaemia cells.

Results and conclusions: Average viral titres obtained for the GLOBE-2 and GLOBE-4 constructs were 7.2×10^7 and 5×10^7 viral particles (vp)/ml respectively, incurring a 31% variance despite a 600bp difference in size.

The relative amounts of β -globin expression adjusted to level of expression per vector copy were 0.869 (± 0.21) and 0.061 (± 0.07) for GLOBE 4 and 2, thus revealing greater levels of expression for our novel GLOBE 4 construct. The results obtained suggest that LV production is not severely negatively affected by the inclusion of the full 2nd intron (a finding not published to date), and that its presence may indeed significantly increase mature human β -globin mRNA levels.

016

Cost analysis of patients undergoing cardiac surgery managed with or without cerebral oximetry (INVOS)

D Walsh^{1*}, M Bennett², S Bennett²

¹Hull York Medical School, UK; ²Cardiothoracic Unit, Castle Hill Hospital, UK
BMC Proceedings 2012, 6(Suppl 4):O16

Introduction: INVOS measures cerebral oxygen saturation. A 100 patient audit examining the efficacy of INVOS showed a reduction in mortality and post-operative length of stay (LOS) against national statistics [1]. Our aim was to analyse the cost effectiveness of INVOS in mixed and coronary bypass (CABG) only cardiac surgery by comparing the INVOS group to a control group.

Methods: A cost analysis of the INVOS group was done by comparing against 100 control patients who underwent surgery immediately prior to the INVOS audit. Hospital finance data was used to calculate costs. The areas for comparison were cost of: INVOS equipment; ICU and non-ICU post-operative LOS; stroke rehabilitation. Previous INVOS studies have focused on CABG only patients [2,3]. In order to compare outcomes with those found in these studies we selected the CABG only patients out of the two groups. This data was then analysed to give a final saving for CABG only patients.

Results: Despite the equipment cost, all other outcomes had a reduced cost in the INVOS group. Overall there was a saving of £102,000 per 100 patients undergoing cardiac surgery. There was improvement in all outcomes in both INVOS (n=65) and the control group (n=66) once the criteria of CABG only had been applied. LOS was reduced in both groups, and neither group contained an incident of stroke. This resulted in an even greater saving of £114,000 per 100 CABG only patients. Both comparisons, mixed and CABG only, showed the biggest cost saving to be due to a reduction in post-operative LOS both in ICU and on the wards. This correlates with the findings of previous studies [2,3].

Conclusions: This cost analysis shows a significant saving when using INVOS in the management of both mixed and CABG only cardiac surgery. The CABG only patients showed the greatest saving of £114,000 per 100 patients. Previous literature only considered CABG patients and did not undertake any cost analysis. However, further analysis with mixed cardiac surgery and a randomised trial is required.

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017

Impact of in-hospital recurrent ischemia event: findings from GULF RACE-2

A Al-Saleh^{1*}, A Hersi¹, KF Alhabib¹, AA Alsheikh-Ali², K Sulaiman³, H Alfaleh¹, S Alsaif⁴, W Almahmeed², N Asaad⁵, H Amin⁶, A Al-Motarreb⁷, J Al Suwaidi⁵

¹Department of Cardiac Sciences, College of Medicine, King Saud University, Riyadh, Saudi Arabia; ²Department of Cardiac Sciences, Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates; ³Cardiology Department, Royal Hospital, Muscat, Oman; ⁴Cardiology Department, Saud Al-Babtain Cardiac Center, Dammam, Saudi Arabia; ⁵Department of Cardiology and Cardiovascular Surgery, Hamad Medical Corporation (HMC), Doha, Qatar; ⁶Cardiology Department, Mohammed Bin Khalifa Cardiac Center, Manama,

Bahrain; ⁷Department of Medicine, Faculty of Medicine, Sana'a University, Sana'a, Yemen

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Introduction: Little in the literature is known about the long term outcome of patients with acute coronary syndrome (ACS) and in-hospital recurrent ischemic event. Accordingly; our objectives were to determine the baseline characteristics of patients, the predictors, and the long term outcome of patients with recurrent ischemia.

Methods: The population comprised 7930 enrolled in the second Gulf Registry of Acute Coronary Events (Gulf RACE-2).

Results: Out of the 7930 ACS patients, 172 (2.2%) had recurrent myocardial infarction (Re-MI) during their hospital stay. Patients with Re-MI were more likely to be older (mean age 59.12 \pm 13.5 vs. 56.8 \pm 12.4, P=0.016), had significantly higher rate of prior history of angina (48% vs. 38.2%, P=0.006), and hyperlipidemia (45.2% vs. 37.3%, P=0.027) than patients without Re-MI. On admission patients with Re-MI had significantly higher HR, lower systolic BP, Killip class 4 and high GRACE risk score than those without Re-MI (27.3% vs. 17.6%), (11% vs. 4.8%), (8.1% vs. 3.2%), and (31.8% vs. 21.5%, P<0.05 for all comparisons) respectively. Patients with Re-MI had a higher rate of STEMI on admission than patients without Re-MI (72.1% vs. 43.9%; P<0.001). Re-MI patients were less likely to receive Aspirin (94.8% vs. 98.5%, P=0.002), beta-blockers (95.3% vs. 74.7%, P<0.001), and Statin (87.2% vs. 94.9%, P<0.001) than patients without Re-MI. Coronary angiogram was less frequently performed on patients with Re-MI than patients without Re-MI (30.8% vs. 32.5%, P=0.036). In hospital adverse events including HF, cardiogenic shock, VT/VF were more frequent in the Re-MI group than patients without Re-MI (44.2% vs. 12.4%), (25.6% vs. 5.3%), (7.6% vs. 2.7%; P<0.001 for all comparisons) respectively. In ACS patients with Re-MI in-hospital, 30 days and 1 year were significantly higher than patients without Re-MI (23.8% vs. 4.1%), (28.1% vs. 7.7%), and (31.6% vs. 12.1%; P<0.001 for all comparisons), respectively.

Conclusions: Recognizing patients at high risk of Re-MI is important as modifying the risk factors, and managing the patient aggressively may reduce the incidence of such events and the associated morbidity and mortality.

018

Going for the jugular: Has assessment of the JVP become neglected?

B Artman^{1*}, AD Hingorani², RJ MacAllister²

¹University College London Medical School, UK; ²University College London Medical School, University College London Hospital, UK
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Introduction: The assessment of the Jugular Venous Pulse (JVP) is arguably one of the most challenging signs to correctly elicit. We present an observational study of the assessment and recording of the JVP in patients presenting as emergencies to University College London Hospital (UCLH). We supplement this with a survey of clinicians undertaken at a medical staff round and a review of textbook recommendations on the measurement of the JVP.

Methods: A total of 173 adult patients who presented to the A & E department at UCLH over a 4 week period were selected at random for inclusion into the audit. Inclusion criteria included patients who subsequently were admitted to either the Acute Admissions Unit or to the Acute Surgical Ward for further treatment. The notes were assessed for the frequency and method of JVP recording throughout the inpatients' stay.

Results: Over 50% of patients in the audit did not have their JVP recorded at any time in their stay in hospital. Only 12% of JVP recordings in the notes quantified the venous pressure. Over 75% of patients treated with fluids or diuretics in A & E did not have their JVP assessed. Only 2 out of the 18 clinical examination textbooks in our survey correctly reproduced the method for examination recommended by Lewis. A survey of clinicians revealed significant uncertainty regarding the correct method for assessment of the jugular venous pulse.

Conclusions: The assessment and recording of the JVP in emergency settings is suboptimal. This may be because its measurement is poorly taught in textbooks or at the bedside. Advice on the measurement of the JVP in textbooks should be improved. Alternative approaches such as podcasts and videos demonstrating best practice may be the preferred route for teaching this difficult clinical sign.

019

Angiogenic potential of clonal populations of human mesenchymal stem cells

J Scott¹, A Liew, G Shaw, M Murphy, F Barry, T O'Brien

School of Medicine, College of Medicine and Health Sciences, National University of Ireland, Galway, Ireland

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Introduction: Critical Limb Ischemia (CLI) is the most severe form of peripheral arterial disease. It is a highly prevalent condition with suboptimal therapeutic options. One third of CLI patients are not suitable for surgical revascularization - these 'no-option' patients have substantial morbidity and mortality and frequently have diabetes mellitus. Hence, new treatments are urgently required. Mesenchymal Stem Cells (MSCs) are a novel and exciting potential for inducing therapeutic angiogenesis. However, MSCs are heterogeneous in nature and the angiogenic potential of different clonal populations from the same donor is currently unknown. We hypothesize that MSC heterogeneity will allow for the isolation of clonal cell populations with enhanced angiogenic potential. These populations may have enhanced therapeutic potential and may also be of interest in exploring the mechanism of MSC-induced angiogenesis.

Methods: The angiogenic potential of three daughter clones and the parent clone from a single donor were determined. Firstly, in vitro angiogenesis assay was performed. Next, the endothelial differentiation ability of these clones was assessed. Finally, the nature of angiogenic products in the secretome was assessed by performing an antibody array analysis on the conditioned media collected from each clone.

Results: Daughter clone 1 and 2, as compared to the parent and daughter clone 3, were highly angiogenic demonstrating the existence of clonal heterogeneity. We next went on to examine the ability of these clones to undergo endothelial differentiation and observed that these two clones also showed significant endothelial differentiation capability which was greater with clone 1. Clone 1 which has the greatest angiogenic and endothelial differentiation capacity secreted the greatest quantity of angiogenic factors.

Conclusions: MSC clones derived from a single human donor are highly angiogenic but individual clones vary in their angiogenic potential. This study suggests that therapeutic efficacy of MSC populations in ischemic states may be enhanced by the use of angiogenic clones.

020

An evaluation of coronary artery plaque burden in asymptomatic type 2 diabetics using dual-source CT coronary angiography

M Patel^{1,2}, VS Mehta¹, S Venuraju², A Yerramasu², A Jeevarethinam², S Atwal², A Lahiri^{2,3,4}

¹University College London Medical School, UK; ²Clinical Imaging and Research Centre Wellington Hospital, London, UK; ³Imperial College, London, UK; ⁴Middlesex University, London, UK

BMC Proceedings 2012, 6(Suppl 4):O20

Introduction: Current International Diabetes Federation (IDF) and American Diabetes Association (ADA) guidelines advocate investigation for coronary artery disease (CAD) in only those patients who have either typical/atypical cardiac symptoms or an abnormal resting ECG. As it is well established that diabetics with CAD may be asymptomatic, we hypothesised that a large proportion of asymptomatic diabetics may have coronary arterial plaques causing significant stenosis which goes undetected with current guidelines.

Methods: A cohort of 71 type 2 diabetic patients with no known CAD was selected. Patients with coronary stents or CABG surgery were excluded. Information regarding risk factors for CAD was collected for all patients. All patients in the study provided written consent. Mean age of the cohort was 60.3 ± 8.2 , with 78.85% being male. All patients underwent a CT coronary angiogram (CTCA). CTCA was reconstructed at the best diastolic phase, and plaques were categorised as non-significant (causing <50% stenosis) or significant (causing >50% or 70% stenosis). Categorical variables were presented as percentages and continuous variables as mean \pm standard deviation.

Results: We found only 16.9% of the cohort had normal coronary arteries, 80.2% had at least one plaque causing non-significant stenosis (1-49%). 56.3% of the cohort had at least one plaque causing stenosis of >50%. 33.8% patients had at least one plaque causing stenosis of >70%. We also found that this cohort had per patient, 1.17 ± 1.9 non-calcified plaques (NCP), 3.06 ± 3.33 calcified plaques, and 1.06 ± 1.4 mixed plaques (MP).

Conclusions: Our study demonstrates that more than half of asymptomatic diabetic patients have at least one plaque causing stenosis of >50% and more than a third have at least one plaque causing stenosis of >70%. This suggests a revision of guidelines is needed for CAD screening in type 2 diabetic patients in order to reduce mortality and morbidity. A limitation of our study is that we have not taken into account duration of diabetes and control of blood sugar levels during this time.

021

Abstract withdrawn

BMC Proceedings 2012, 6(Suppl 4):O21

022

Abstract withdrawn

BMC Proceedings 2012, 6(Suppl 4):O22

023

Fever, fear and hunger: the response of the Irish population to infectious disease during the Great Irish Famine, 1845-48

R McDermott

University of Newcastle, UK

BMC Proceedings 2012, 6(Suppl 4):O23

Introduction: Over one million people died during the Great Irish Famine. Around one third of these perished as a result of infectious disease. The aim of this study is to analyse the reaction of the Irish people to the 'fever', a term used at the time, combining typhus, typhoid fever and relapsing fever, and cholera epidemics that swept through the country during the famine years. Previous historical scholarship has focussed on the medical establishment. This study moves beyond that to analyse the reaction of the sufferers themselves.

Methods: The basis of the study is a rigorous analysis of the famine folklore collected in the 1930s and 1940s by the Irish Folklore Commission. This is combined with a study of sources from the period, both government records and the writings of those who visited the worst hit areas.

Results: The folklore provided a strikingly different perspective on infectious diseases during the famine. Food was believed to be the most significant cause of sickness, in contrast to modern medical thought on the causes of these infections. Notions of contagion were well understood at the time, and produced much panic among the population. This panic had a profound effect on strongly held cultural beliefs. The most surprising result was the response of the medical establishment. In contrast to previous scholarship, this work argues that physicians and the hospital system were peripheral to the care given to the people, with the clergy providing the bulk of the assistance the sick needed.

Conclusions: The reaction of the Irish people to infectious disease was complex, consisting of many different theories. These theories had a significant effect on the way the population actually dealt with 'fever' and cholera. This study is an important part of the on-going project to construct a social history of medicine in Ireland. It also shows the utility of folklore in allowing the researcher a perspective on a group whose beliefs and reactions are unobtainable from conventional sources.

024

Abstract withdrawn

BMC Proceedings 2012, **6(Suppl 4):O24**

025

Effectiveness of an innovative community-based breast cancer awareness workshop

A Al-Shammari*, A Al-Dahlawi, A Nurhussen, S Obeidat, M AbouSaleh, S Al-Jazairy, MH Rajab
Alfaisal University, College of Medicine and Zahra Association for Breast Cancer, Saudi Arabia

BMC Proceedings 2012, **6(Suppl 4):O25**

Introduction: Breast cancer is the second leading cause of cancer related death in women. Currently, few women in Saudi Arabia get screened for breast cancer. A recent study found a gap between awareness and the practice of breast self-exam (BSE), and emphasized the need for community-based awareness programs. The main objective of this study was to assess the effectiveness of an innovative community-based breast cancer awareness workshop in increasing the level of confidence in performing BSE in Saudi women.

Methods: An innovative community-based breast cancer awareness workshop was designed and subsequently conducted in two locations within the City of Riyadh during the months of March and April 2010. The workshop included different techniques that were designed based on neuro-linguistic programming (NLP), which targets three types of learners: visual, auditory, and kinesthetic. A two-part (before and after) questionnaire was used to assess the effectiveness of the workshop in increasing the level of confidence in performing breast self-examination and to measure participants' satisfaction with workshop content and execution. The study was a non-randomized, pre-post design. Data were analyzed using McNemar test. A $p < 0.05$ indicated a statistical significance.

Results: A total of 89 women participated in the two workshops; 74% were of Saudi nationality and the rest were mainly from neighboring Middle Eastern countries. Sixty-six percent of participants were married, 62% were college educated, and 77% were over 26 years of age. At Baseline, 98% of study participants reported that early detection of breast cancer is very important to them as it improves the chances of successful treatment. In relation to breast self exam (BSE), 69 participants (78%) reported knowing how to perform the BSE, out of which 43% reported performing it once per year. At baseline only 15% of participants reported being confident in performing BSE compared to 59% after completing the workshop, ($p < 0.00$). At the end of workshops, 94% of the participants evaluated the workshop as being excellent and 91% reported that the workshop met their expectations.

Conclusions: Based on the survey results, the community-based awareness workshop employed was effective in increasing the level of reported confidence in performing BSE among the study participants.

026

Serum plasminogen activator inhibitor 1 (PAI-1) and intra-ocular pressure (IOP): the Guangzhou biobank cohort study

J Heggie*, K Tanner, M Protty, GN Thomas
College of Medical and Dental Sciences, University of Birmingham, UK
BMC Proceedings 2012, **6(Suppl 4):O26**

Introduction: Increased intraocular pressure (IOP) is a major risk factor for developing ocular disease such as primary open-angle glaucoma. Plasminogen activator inhibitor 1 (PAI-1) plays a role in the turnover and degradation of extracellular matrix proteins (ECM) which are thought to play a role in the pathogenesis of increased IOP. To determine if an independent association exists between serum PAI-1 and IOP in humans.

Methods: A cross-sectional study with participants from the Guangzhou biobank cohort study (GBCS-CVS) aged 50-85 years were recruited and received a medical check-up including measurement of serum PAI-1, IOP,

blood pressure, fasting LDL- and HDL-cholesterol, glucose and obesity measures. Information on socioeconomic and lifestyle factors was also collected. Subjects were divided into tertiles based on serum PAI-1 and a logistic regression analysis was performed to derive an odds ratio for having high IOP for each tertile. Personal, social and vascular confounders were adjusted for.

Results: The risk of increased IOP was significantly raised with higher serum PAI-1, with adjusted odds ratios (95% confidence intervals) for second and third tertiles of 1.31 (0.81-2.12) and 1.81 (1.15-2.83), respectively. Haematocrit, glycosylated haemoglobin (HbA1c), heart rate, and high-density lipoprotein (HDL-C) were the only vascular risk factors positively associated with serum PAI-1 levels (p from 0.03 to < 0.01).

Conclusions: There is a strong relationship between serum PAI-1 and IOP in this older Chinese population. Further studies are needed to confirm these findings in this and other populations.

027

Male sexual dysfunction in Ireland: prevalence and associated sociodemographic characteristics

DR Walsh
Department of Psychology, Division of Population Health Sciences, Royal College of Surgeons in Ireland
BMC Proceedings 2012, **6(Suppl 4):O27**

Introduction: Sexual problems and dysfunctions are relatively common experiences which significantly impact on the perceived quality of life; sexual dysfunction has been shown to be associated with anxiety, depression, interpersonal difficulties and overall negative well-being. Recent research has shown that sexual health can be indicative of overall health, for example; erectile dysfunction has been shown to be a sentinel marker of cardiovascular disease. The aims of this report were to assess the prevalence of male sexual dysfunction in Ireland and to identify sociodemographic factors associated with sexual dysfunction.

Methods: Data collected in 2003 from the Irish Study of Sexual Health and Relationships (ISSHR) was analyzed using PASW statistics 18. In the survey, men aged 18-64 were asked questions about sexual problems which lasted "for at least one month in the past 5 years." A score variable (MSD) was computed for the number of dysfunctions each participant had reported ranging from zero to six. PASW was used to examine any associations between the continuous MSD variable and fertility, marital status, STI history or age of first sex.

Results: At least one sexual dysfunction was prevalent in 49.6% of men who participated in the survey. Erectile dysfunction was reported by 15.4% of men and premature ejaculation by 24.4% of men. Dyspareunia and anorgasmia both had a higher than expected prevalence of 16.1% and 14.9% respectively. The most common sexual problem was low sexual desire with a prevalence of 30.2%. Marital status and fertility were found to have no significant association with MSD. Having previously had an STI and having had first sexual intercourse at a young age (especially 16 years or younger) were both correlated with an increased prevalence of MSD.

Conclusions: Male sexual dysfunction has a high prevalence in the Irish population. Predictors of MSD such as past STI infections could help healthcare providers detect the patients most likely to experience MSD. More research is required on the epidemiology of and risk factors associated with anorgasmia and dyspareunia. Understanding the prevalence of and factors associated with sexual problems will improve the provision of care and support available.

028

An audit of the Beaumont Hospital Acute Stroke Unit and the effectiveness of the Irish FAST campaign

D Zeng*, L Mellon, A Hickey, D Williams
Royal College of Surgeons in Ireland
BMC Proceedings 2012, **6(Suppl 4):O28**

Introduction: Stroke is the second leading cause of death worldwide, and the leading cause of acquired disability in adults. An audit conducted by the Irish Heart Foundation revealed that there are inadequate services and facilities to prevent, assess and treat the yearly 10 000 stroke victims

in Ireland. A national media campaign (FAST) was broadcast to educate people about the warning signs of stroke. This audit is to examine the effectiveness of the Beaumont Hospital Acute Stroke Unit and the FAST campaign.

Methods: Information regarding stroke admissions to Beaumont Hospital was collected during the FAST campaign period of April, 2010 to June, 2011. The data was retrieved from the stroke-coordinator in Beaumont and also through the hospital patients' database. The data included clinical details of the admission such as presenting symptoms, length of stay, and administration of thrombolysis.

Results: A total of 501 patients were admitted to the stroke service. The average age was 70.5 years old. 62.3% of patients had a stroke and 10% had TIA. 86.5% were ischemic stroke while 13.5% were hemorrhagic stroke. 69.3% of the patients were admitted to the Acute Stroke Unit followed by 20.7% being admitted to medical beds. The average length of stay in the stroke unit for stroke patients was 9.2 days and 4.5 days for TIA patients. 6.4% of the patients received thrombolysis. The biggest risk factor for stroke patients was hypertension (51.9%). The most common presenting symptoms of patients was speech disturbance 29.6%, The FAST message was able to identify 76.8% of stroke and TIA patients.

Conclusions: There is some room for improvement for the Beaumont Hospital Acute Stroke Unit especially in the rate of thrombolysis and the number of days in which stroke patients stay in the stroke unit. The FAST campaign is adequate for identifying the majority of warning signs of stroke, however this audit was unable find any increase in patients admitted with stroke-like symptoms during the study period.

O29

Laboratory markers as predictors of the outcome of resuscitation; a pilot study

EC Reynolds

University of Bristol, UK

BMC Proceedings 2012, 6(Suppl 4):O29

Introduction: Deciding when not to attempt resuscitation (DNAR) is problematic for many reasons but not least because of the difficulty in predicting the outcome in any given individual. "Futility" is often used as a justification for DNAR, but it lacks precision and is prone to subjectivity. Predictive scoring systems might avoid unnecessary pessimism and also minimise truly futile attempts which are distressing and undignified. Existing scores have a high specificity and low sensitivity, and may have useful negative predictive value but they are based on trials involving fewer than 200 patients. Sepsis and renal impairment appear to indicate a poor outcome but no studies have examined biochemical indicators of infection and inflammation (elevated C reactive protein (CRP) or white cell counts (WCC)). This feasibility study examined the relationship between elevated CRP, WCC, and creatinine and poor outcome of CPR.

Methods: The study was performed retrospectively on information submitted to the national resuscitation audit database on CPRs between July 1st and Dec 31st 2010 in a large UK teaching hospital. Creatinine, CRP and WCC values up to 72 hours pre-arrest were analyzed. The study covered only ward-based arrests and excluded emergency department, intensive and coronary care units.

Results: Data for 56 arrests were available in the study period. 8 patients survived to discharge (14.3%) and of the 48 who died (85.8%), 36 failed initial CPR, 8 died within 24 hours, and 4 died later in hospital. Data are presented as median values with ranges.

Only 4 out of the 56 undergoing CPR had a CRP of less than 10.

Table 1(abstract O29) Data for 56 arrests

Numbers	Survivors = 8 (14.2%)	Non-survivors = 48 (85.8%)
Age (years)	77.5 (48-94)	79.5 (35-98)
CRP (mg/L)	50.7 (2.6-147.7)	48.1 (2.4-278.3)
WCC (x10 ⁹ /L)	9.0 (4.1-19.3)	10.75 (4.2-18.3)
Creatinine (mmol/L)	80.0 (26-193)	106 (26-677)

Conclusions: There was no correlation between age, creatinine, CRP, or WCC on the outcome of CPR suggesting these should not be major factors influencing DNAR decisions. However this study only involved small numbers and was a feasibility study for a larger analysis of around 1500 CPR attempts which will aim to construct and later validate a predictive scoring system.

O30

Comparative study on the effects of substrate stiffness on cell morphology and focal adhesion expression between hMSCs and AFSCs

B Lowry*, R McCoy, F O'Brien

Royal College of Surgeons in Ireland

BMC Proceedings 2012, 6(Suppl 4):O30

Introduction: Stiffness plays an important role in cell differentiation. Our project set out to compare the effects of substrate stiffness on cell morphology and focal adhesion expression between hMSCs and AFSCs.

Methods: We developed a novel technique for fabricating thin collagen-GAG films, which were further stiffened via DHT cross-linking techniques and/or EDAC cross-linking techniques. We cultured both cell types either on the fabricated collagen-GAG films or on glass microscope-slide coverslips that had been coated in collagen-GAG slurry.

Results: Staining and imaging showed numerous clear focal adhesions had been formed for both cell types and the general morphology of the cells represented that of healthy cells with a flatly spread appearance when cultured on the glass cover-slips. On the collagen films, the cells showed poor focal adhesion formation and very diffuse staining, but no difference was observed as a function of cross-linking technique. Furthermore, the low stiffness also allowed the cells to contract giving them a narrow, elongated morphology.

Conclusions: In conclusion, from the limited number of cells observed in this study no qualitative differences were noted between AFSCs and MSCs in terms of focal adhesion expression or cell morphology on substrates of varying stiffness. However, focal adhesion expression levels were markedly reduced for both cell types on the less stiff collagen-GAG films.

O31

The effect of continuous interscalene nerve blockade on hospital length of stay following shoulder surgery

C Udovitch^{1,3}, M Richardson^{1,2,3}, J Cormack⁴

¹The University of Melbourne, Australia; ²The Epworth Hospital, Australia;

³The Royal Melbourne Hospital, Australia; ⁴The St. Vincent's Hospital, Australia

BMC Proceedings 2012, 6(Suppl 4):O31

Introduction: Continuous interscalene nerve blockade (CISNB) has been shown to reduce postoperative pain and morphine usage after a wide range of shoulder operations (1&2). Recent trends to minimally invasive shoulder surgery are expected to be associated with shorter postoperative stays. This study compared the length of stay using CISNB as the primary postoperative analgesia with other forms of analgesia and measured the time from end of surgery to discharge.

Methods: Following ethics committee and institutional approval from the participating hospital (The Epworth Hospital, Richmond), the investigator examined the medical records of all patients having minimally invasive shoulder surgery undertaken by the one surgeon. Included were shoulder acromioplasty, shoulder capsulotomy, superior labral anterior posterior (SLAP) repair and rotator cuff repair (mini-open). Exclusions were patients under 16 years, ASA status greater than 3, bilateral surgery and emergency cases.

Results: There was no difference between groups with median hospital length of stay from the end of surgery to discharge being 24.4 hours (quartiles 20.7-42.1) for the CISNB (A) group compared with 24.0 hours (18.8-42) for the "other analgesia" (B) group which included parenteral morphine alone or in combination with single shot interscalene nerve block or intra-articular local anaesthetic. Secondary observed outcomes included opioid use on the ward in morphine equivalents with CISNB patients requiring a median dose of 2mg (quartiles 0-9) compared with "other analgesia" needing 6mg (1-16) p=<0.01.

Conclusions: For minimally invasive shoulder surgery the presence of CISNB is not associated with shortened hospital stay despite requiring less morphine equivalents. Further analysis of patients with stays over 48 hours showed rotator cuff repairs and age over 65 may be associated with longer stay however this study was underpowered to prove this association.

032

Arthroscopic thermal capsular shrinkage: a successful treatment option for patients with chronic lateral ankle instability?

J White¹*, A Zubairy², M Hakimi²

¹University of Manchester, UK; ²East Lancashire Hospitals Trust, UK
BMC Proceedings 2012, **6**(Suppl 4):O32

Introduction: Thermal capsular shrinkage is a well recognised procedure in the management of shoulder instability, but little data has been collected with regards to other joints. This surgical technique offers an alternative treatment to ligament reconstruction in chronic lateral ankle instability.

Objectives: This study looks at the outcomes of thermal capsular shrinkage in patients with chronic lateral ankle instability. It aims to audit the results of thermal capsular shrinkage against published literature, and to devise a recommended rehabilitation protocol.

Methods: Data was collected from 26 patients (12 males, 12 right ankles, mean age 32.88 years) from November 2004 to March 2011. 20 patients were available for follow up. Preoperative MRI scans and stress radiographs were taken. The patients were all assessed using the American Orthopaedic Foot and Ankle Society (AOFAS) ankle-hindfoot scale, Manchester-Oxford Foot Questionnaire, EuroQol and the Visual Analogue Scale Foot and Ankle. Reviews were held at an average of 27.4 months postoperatively.

Results: Postoperative AOFAS scores improved by a mean of 40 points ($P < 0.05$). 12 patients rated their satisfaction as excellent or very good, 7 as good and 1 as poor. No revision procedures were required. Physiotherapy regimes were analysed, and then collaborated to form what we believe to be the optimum postoperative management for these patients.

Conclusions: Results show that this minimally invasive arthroscopic surgical technique is a successful treatment option with minimal morbidity for patients with chronic lateral ankle instability. No revision procedures were performed.

033

The accuracy and inter-observer reliability of acetate templating in total hip arthroplasty

R Kearney, J O'Byrne, A Shaikh

Royal College of Surgeons in Ireland
BMC Proceedings 2012, **6**(Suppl 4):O33

Introduction: A number of orthopedic surgeons use traditional acetate x-rays to pre-operatively template in primary total hip arthroplasty (THA). Templating, when successful can prevent the use of oversized or undersized implants. However, ignoring to template can result in many complications. In Cappagh National Orthopedic Hospital Dublin (CNOH), a number of consultant surgeons do not routinely template; while in some cases only the registrars template routinely. However, inter-observer reliability (IOR) between consultants and registrars is unknown. Our study hopes to answer two key questions: How accurate is pre-operative acetate templating in a National Orthopedic Hospital, and when only trainee registrars template, is the accuracy of templating affected?

Methods: A prospective cohort study was carried out over four weeks on 38 THA patients in CNOH, based on questionnaire responses obtained from two surgeons from the same operating team (senior consultant surgeon and trainee registrar surgeon). X-rays were templated pre-operatively individually by each surgeon using manufacturer supplied transparent acetate template sheets. Each surgeons measurements were noted on the questionnaires. The operative book was reviewed post-operatively to determine the final size of implant used. Surgeon's template acetabular cup, femoral stem and femoral offset sizes were noted and compared with the final implant sizes for accuracy. Both consultant and registrar's predictions were noted and compared with each other for IOR of templating.

Results: Templating was found to be accurate to within one size of final implant size for 75% of acetabular cups and 91% of femoral stems. Prediction of exact femoral offset size was accurate 91% of the time. Templating also showed strong IOR within one size of corresponding surgeon's template measurements for cup (83%) and stem (100%), as well as exactly matching 92% of the time for femoral offset.

Conclusions: We conclude that acetate templating is beneficial for both senior consultant and trainee surgeons at gauging within one size of cup and stem implants as well as predicting exact femoral offset size. We would encourage the widespread use of templating as it can reduce complications associated with THA and also save both time and money in the the health care service.

034

Improving consenting practise in ENT surgery – measures that lead to effective change

E Ridyard, V Varadarajan

University of Manchester, UK

BMC Proceedings 2012, **6**(Suppl 4):O34

Introduction: To measure consenting standards of common ENT procedures in a foundation trust department and implement effective measures to improve and standardise consenting practice.

Methods: Consenting standards were compiled from ENT UK / BAOHNS patient leaflets for tonsillectomy, grommet insertion, septoplasty, rigid oesophagoscopy, functional endoscopic sinus surgery (FESS) and mastoidectomy. Prospective analysis of complications documented on consent forms was performed ($n = 56$). Deficient areas were raised amongst the department and pre-prepared stickers were produced for use on consent forms. A second prospective data cycle ($n=59$) was collected and analysed using chi-squared testing.

Results: Improvements were seen in the vast majority of complications consented for. Statistically significant improvements were measured for septoplasty ("cosmetic change" ($p = 0.05$), "teeth numbness" ($p = 0.0010$)) and mastoidectomy ("dizziness" ($p = 0.01$), "tinnitus" ($p = 0.05$), "ear dressing reaction" ($p = 0.001$)). Some percentage decreases were seen for grommet insertion ("infection" (-10%)) and rigid oesophagoscopy ("perforation" (-25%)).

Conclusions: A wide variety of consenting practice was measured. Improvement was seen in the vast majority of complications consented for. New doctors starting midway during the second data cycle may be responsible for the reduction in some standards. Sticker use was non-mandatory, and may be made mandatory to further improve standards.

035

ATLANTIC DIP: The prevalence of pre-diabetes/type 2 diabetes in an Irish population with gestational diabetes mellitus 1-5 years post index pregnancy

C Crowe¹*, E Noctor¹, LA Carmody¹, B Wickham¹, G Avalos¹, G Gaffney², P O'Shea³, F Dunne¹, ATLANTIC DIP Collaborators

¹Department of Medicine, University Hospital Galway and National University of Ireland, Galway, Ireland; ²Department of Obstetrics and Gynaecology, University Hospital Galway, Ireland; ³Department of Clinical Biochemistry, University Hospital Galway, Ireland

BMC Proceedings 2012, **6**(Suppl 4):O35

Introduction: The ATLANTIC-DIP (diabetes in pregnancy) programme showed 18% of women with gestational diabetes mellitus (GDM) screened with a 75g oral glucose tolerance test (OGTT) 12 weeks post-partum demonstrated glucose intolerance. However, long-term data on progression to type 2 diabetes (T2DM) post gestational diabetes (GDM) in an Irish population is lacking.

Methods: We compared Caucasian women with previous GDM ($n=116$), and with normal glucose tolerance (NGT) during pregnancy ($n=52$), using a 75g OGTT, to determine prevalence of diabetes/pre-diabetes 1-5 years post index pregnancy. Women with abnormal OGTT 12 weeks post-partum ($n=22$: IFG/IGT, $n=20$, DM, $n=2$) did not undergo OGTT, but were included in the analysis. American Diabetes Association diagnostic criteria for IFG/IGT/DM were used.

Results: Twelve percent (11/94) of GDM patients rescreened had pre-diabetes/DM (IFG/IGT, n=10, DM, n=1), giving a prevalence of 28.4% (33/116) for pre-diabetes/diabetes, versus 2% (1/52) of women with NGT during pregnancy. Logistic regression analysis was used to determine index pregnancy factors associated with post-partum pre-diabetes/diabetes. These were: first-degree relative with DM (OR 2.8 95% CI 1.0,7.4, p=0.04), insulin use during pregnancy (OR 3.4, 95% CI 1.2,9.6, p=0.01), fasting glucose during pregnancy (OR for glucose \geq 5.6mmol/L: 4.5 95% CI 1.4, 14.2, p= 0.01). and not breastfeeding (OR 3.2 95% CI 1.2, 9.1, p=0.02). BMI in pregnancy was not associated with pre-diabetes/diabetes at 1-5 years.

Conclusions: The high prevalence of diabetes/pre-diabetes in this population offers an opportunity to develop a screening program to benefit at risk individuals, particularly targeting those with insulin-requiring GDM, higher fasting glucose levels and positive family history.

O36

Validation of a diabetes risk score in identifying patients at risk of progression to abnormal glucose tolerance post partum

C Crowe^{1*}, E Noctor¹, LA Carmody¹, B Wickham¹, G Avalos¹, G Gaffney², P O'Shea³, F Dunne¹, ATLANTIC DIP Collaborators

¹Department of Medicine, University Hospital Galway and National University of Ireland, Galway, Ireland; ²Department of Obstetrics and Gynaecology, University Hospital Galway, Ireland; ³Department of Clinical Biochemistry, University Hospital Galway, Ireland

BMC Proceedings 2012, 6(Suppl 4):O36

Introduction: FINDRISC (Finnish Diabetes Risk Score) is a risk assessment tool widely used for the prediction of the development of type 2 diabetes (T2DM), combining a questionnaire with simple anthropometric measurements to identify patients at risk of developing diabetes, with increasing score (0-26) signifying increased risk. A cut off score of 9 has previously been proposed (with drug-treated DM as the endpoint) with a positive predictive value (PPV) of 0.12 and negative predictive value (NPV) of 0.99, area under receiver operating characteristic curve (AuROC)=0.80. It has been well validated in the general population.

Methods: We examined its use in predicting progression to pre-diabetes/diabetes in a cohort of Caucasian patients with a history of gestational diabetes mellitus (GDM). 116 women with a history of GDM underwent screening 1-5 years post-index pregnancy. Those with a history of persistent post-partum dysglycaemia had fasting glucose levels taken, while others underwent a 75g OGTT.

Results: Of the 116 women with a history of GDM, 83 showed normal glucose tolerance (NGT) post-partum (71.6%). 22 patients had abnormal OGTT at 12 weeks (18.9%). A further 11 patients (9.5%) had pre-diabetes/diabetes at rescreening. The FINDRISC score was higher in patients with pre-diabetes/diabetes than those with NGT post partum (mean score 13.6+/- 4.1 vs. 11.0+/- 3.7, p<0.01). For a cut-off score of 9, PPV was 0.30, NPV was 0.79, AuROC=0.69, comparable with published data in the general population.

Conclusions: This study shows the validity of an inexpensive, convenient risk score in helping to determine which patients may need more frequent screening post GDM.

O37

Post-radioiodine management of patients with Graves' disease

K Collins^{*}, P Perros, J Horsefield

Departments of Endocrinology and Medical Physics, Royal Victoria Infirmary, Newcastle upon Tyne, UK

BMC Proceedings 2012, 6(Suppl 4):O37

Introduction: Radioiodine is a safe and effective treatment for Graves' disease. Iatrogenic hypothyroidism is very common after treatment, but its onset is unpredictable. Even a short episode of hypothyroidism can result in significant morbidity and ideally should be avoided. In Newcastle a standard dose of radioiodine (400MBq) is used, but for historical reasons two different protocols are used after radioiodine: Regimen A: regular clinical and biochemical monitoring and initiation of levothyroxine when serum thyroid hormones have normalized, and Regimen B: block

and replace with Carbimazole and levothyroxine starting 2 weeks post-radioiodine and continuing for 6 months, then withdrawing Carbimazole, but continuing with levothyroxine long-term.

Methods: The objective was to compare the two protocols for incidence of biochemical and clinical hypothyroidism during a 12 month post-radioiodine follow-up period and effects on weight gain and development or progression of orbitopathy. Patients with Graves' disease who were treated between January 2008-December 2009 were included. The medical records were reviewed and data were collected and analyzed.

Results: One hundred and twenty two patients were studied, 78 treated with Regimen A and 43 with Regimen B. Euthyroidism at 8 weeks, 6 months and 12 months post-radioiodine was achieved in 50%, 64% and 73% of patients with Regimen A and 65.1%, 71% and 65% in patients with regimen B respectively. Clinical hypothyroidism during follow-up was commoner in Regimen A than B (52.6% vs 16.3% respectively, p<0.05). Weight gain was reported more frequently in Regimen A than B (43.6% vs 20.9%, p<0.05). The incidence of new Graves' orbitopathy developing after radioiodine was higher in Regimen A than B (11.1% vs 5.3%).

Conclusions: A 6 month course of block and replace followed by levothyroxine after a standard 400MBq dose of radioiodine is associated with better clinical outcomes than a watchful approach and initiation of levothyroxine based on biochemical and clinical indicators.

O38

Investigation of endothelial nitric oxide (NO) signalling in response to the incretin hormone glucose-dependent insulinotropic polypeptide (GIP)

PJ Savage^{*}, AP Harvey, E Robinson, DJ Grieve

Queen's University Belfast, Centre for Vision and Vascular Science, School of Medicine, Dentistry and Biomedical Sciences, Belfast, UK

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Introduction: The incretin hormone, GIP, is responsible for augmenting postprandial insulin release and regulation of β -cell mass. The advent of newly-developed GIP analogues, which have been demonstrated to restore glycaemic control in animal models of type 2 diabetes mellitus (T2DM), suggest that GIP-based therapies may now realise their long-held promise for the treatment of T2DM. Interestingly, we have recently shown that GIP may also exert vasodilatory actions which appear to be mediated via endothelium-dependent NO production. This may be particularly relevant to T2DM as over 60% of associated mortality is attributable to cardiovascular disease related to dysregulation of endothelial NO homeostasis. An improved understanding of the mechanisms underlying GIP's recently-described vascular actions is clearly important. The aim of this study was therefore to dissect the precise mechanisms involved in GIP-mediated endothelial NO signalling.

Methods: Bovine aortic endothelial cells (BAECs) were isolated and cultured to confluence. Immunofluorescence microscopy was used to confirm the purity and identity of the BAEC preparation. Cells were then treated with GIP (0.1 μ M) for 24 hours in the presence or absence of specific inhibitors of candidate signalling pathways before NO production was assessed using the Greiss assay.

Results: GIP was found to induce marked NO production in BAECs (control, 62.3 ± 17.3 μ M vs GIP, 32.3 ± 6.3 μ M ; P<0.001, n=9), which was significantly attenuated by the GIP receptor antagonist Pro3-GIP (32.3 ± 6.3 μ M; P<0.01, n=3), the Ca^{2+} -calmodulin inhibitor KN-93 (32.3 ± 6.3 μ M; P<0.05, n=3) and the PI3K inhibitor wortmannin (32.3 ± 6.3 μ M; P<0.05, n=2). However, GIP-induced NO production was unaffected by either the Gs activator, cholera toxin, the adenylate cyclase inhibitor, MDL-12,330A or the adenylate cyclase activator, forskolin (P>0.05, n=2). Data presented as mean \pm SEM.

Conclusions: GIP directly stimulates NO production in BAEC's via a mechanism involving the GIP receptor, PI3K, and Ca^{2+} -dependent eNOS activation. These actions may be related to GS activation, although its precise link to this pathway remains unclear. Further research into the precise role of GIP in the vasculature may allow for the future development of novel GIP-based treatments in T2DM with additional cardiovascular benefits beyond those relating to glycaemic control.

039

Dermatological manifestations in autoimmune thyroid disorders

N Nagaraj¹, AL Balaji, S Singla, M Prakash
Rajiv Gandhi University of Health Sciences, India
BMC Proceedings 2012, **6**(Suppl 4):O39

Introduction: Thyroid hormone deficiency causes skin changes including thickening, pruritis, alopecia, xerosis, nail changes and dermopathy. These manifestations depend on various factors like duration of disease, treatment and follow-up. We conducted this study to show the cutaneous manifestations of auto-immune thyroid disease (AITD) as a marker for diagnosis and treatment.

Methods: We examined 400 consecutive patients presenting to the endocrinology/dermatology department of a tertiary care referral hospital in Bangalore who were diagnosed with AITD between the periods from 06/07 – 06/10 on an outpatient basis. Detailed history and physical examination including cutaneous examination was done. Mean follow up was done for the period of 6 months for the cutaneous manifestations.

Results: 400/1020 (39.2%) patients presented with cutaneous manifestations with AITD. This comprised of 42(10.5%) males and 358(89.5%) females. The cutaneous presentations were nail changes(336), dermopathy (48), urticaria(114), vitiligo(74), alopecia(90), and pruritis(242). The other co-morbid conditions associated were diabetes(160), hypertension(190), psoriasis(38), addisons disease(9) and PCOS (93).

Conclusions: The study shows the cutaneous manifestations of AITD, which should be evaluated completely and followed-up with regular thyroid function tests and thyroid hormone replacement. Discontinuation of thyroid hormone therapy may result in recurrence. The cutaneous manifestations can also be used as a diagnostic marker for AITD. In a country like India, thyroid diseases go unnoticed mainly due to reduced incidence previously and lack of awareness among the patient population. AITD is not easily diagnosed and cutaneous manifestations shall result in early diagnosis and treatment for AITD and other thyroid diseases.

040

Abstract withdrawn

BMC Proceedings 2012, **6**(Suppl 4):O40

041

Regulation of epithelial barrier function by Crohn's disease associated gene PTPN2

R Visser¹*, KE Barrett², DE McCole²

¹Radboud University Medical Centre, Nijmegen, The Netherlands; ²University of California, San Diego, USA

E-mail: roosvisser@student.ru.nl

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Introduction: The aim of this study was to determine whether there is a synergistic disrupting effect between IFN and TNF on intestinal epithelial barrier function as well as whether this effect is influenced by the knockdown of Crohn's disease associated PTPN2 gene.

Methods: T84 cells that were either nontransfected or stably transfected with PTPN2 were cultured with IFN and TNF and changes in transepithelial resistance, fluorescein isothiocyanate dextran flux, immunofluorescence and expression of the tight junctional protein claudin-2 and the regulatory protein PTPN2 were assayed.

Results: Our data demonstrated a decrease in barrier integrity, as measured by TER, by IFN pre-treatment followed by addition of TNF on T84 cell monolayers. This reduction was significantly more dramatic than in controls (***, $p < 0.001$) or T84 cell monolayers treated with IFN- γ alone (*, $p < 0.05$). Furthermore, IFN pre-treatment followed by addition of TNF on T84 cell monolayers demonstrated an alteration in the distribution of claudin-2. PTPN2 showed enhanced expression, as well as a shift in distribution away from the nucleus after this treatment regime. Knockdown of the PTPN2 gene in T84 cell monolayers enhanced the cytokine induced changes as regards to TER. A trend towards increased paracellular permeability as

measured by FITC-dextran flux was also observed in PTPN2 deficient T84 cell monolayers treated with IFN alone compared to controls. A higher expression of claudin-2 was observed while experimenting on T84 cell monolayers with repressed PTPN2 expression.

Conclusions: There is a synergistic disrupting effect between IFN and TNF on intestinal epithelial barrier function. This effect seems to become more dramatic by the knockdown of Crohn's disease associated PTPN2 gene, but further research is needed to elucidate the role of PTPN2 in IBD pathogenesis.

042

Role of regulatory T cells in murine model of liver fibrosis resolution

X Lim¹, P Ramachandran, JP Iredale

College of Medicine and Veterinary Medicine, University of Edinburgh, MRC Centre of Inflammation Research, UK

BMC Proceedings 2012, **6**(Suppl 4):O42

Introduction: Liver fibrosis is a chronic inflammatory condition that afflicts many people. While much is known about the role of macrophages subpopulations in liver fibrosis resolution, little is known about the role of regulatory T cells (Tregs) in the process. Because Tregs are known to dampen inflammatory responses, we hypothesize that Tregs mediate the switch from fibrosis to resolution of liver fibrosis by interacting with macrophages.

Methods: Using various Treg and macrophage conditional ablation models, we aimed to elucidate the relationship between Tregs and pro-resolution macrophages. The 5 models used are: Foxp3-DT Treg depletion, CD11b-DT macrophage depletion, MMP-12 knock-outs, liposome-induced pro-resolution macrophage activation and liposome clodronate macrophage depletion. All mice were injected with carbon tetrachloride for 4 weeks and allowed to recover. The livers were harvested at various time points, fixed and stained for fibrillar collagen, hepatic stellate cells (HSCs), Tregs and macrophages. Mann-Whitney statistical test was used and values of $p < 0.05$ were considered significant.

Results: We established that Foxp3-DT is a novel viable method of Treg depletion ($p < 0.05$). Treg depletion resulted in failure of fibrosis remodelling as shown by picrosirius red staining and morphometry ($p < 0.05$). CD11b pro-resolution macrophage depletion caused an increase in number of Tregs during resolution of liver fibrosis ($p < 0.05$) while liposome-induced activation of pro-resolution macrophages caused a decrease in Tregs during resolution of liver fibrosis ($p < 0.05$). We also established that MMP-12 is a marker of pro-resolution macrophages and observed that MMP-12 knock-outs had increased Tregs during resolution of liver fibrosis ($p < 0.05$). However, we also observed that liposome clodronate macrophage depletion resulted in lower number of Tregs.

Conclusions: We conclude that Tregs are necessary for fibrosis resolution and that there is an inverse relationship between Tregs and pro-resolution macrophages. We propose that this may be due to negative feedback signals from pro-resolution macrophages and/or feed forward signals from inflammatory macrophages recruiting Tregs. Similar observations with MMP-12 knock-out mice suggest this process may be mediated by MMP-12.

043

Abstract withdrawn

BMC Proceedings 2012, **6**(Suppl 4):O43

044

Renal quality outcomes framework and eGFR: impact on secondary care

LA Phillips^{*}, KL Donovan, AO Phillips

Institute of Nephrology, Cardiff University School of Medicine, Heath Park, Cardiff, UK

BMC Proceedings 2012, **6**(Suppl 4):O44

Introduction: The recognised benefits of early detection and management of chronic kidney disease (CKD), led to the introduction of

estimated glomerular filtration rate (eGFR) reporting and the incorporation of CKD into the revised Quality Outcomes Framework (QOF) of the General Medical Services (GMS) contract in the UK. Our aim was to characterize the effect of these changes on referral numbers and appropriateness to a nephrology service, and to assess the impact of a new patient care pathway. In addition, we reviewed the Welsh 2006-8 CKD QOF data, to explore its relation to population demographics and relevant QOF data.

Methods: Analysis of referrals was based on data from one NHS Trust covering five Local Health Boards (LHBs). In addition, we compared data from all Welsh CKD QOF returns (2006-8) with biochemistry data, QOF data for related chronic diseases, and published epidemiology. Correlations between LHB prevalence of CKD, CHD, diabetes, hypertension and social deprivation were analysed using linear regression. A p value of <0.05 was considered significant.

Results: Introduction of eGFR reporting and CKD QOF domains led to a 61% increase in referrals, and an increase in patient age at referral (63.0±18.1 to 69.1±18.5). Screening of referrals demonstrated 36% to be inappropriate or inadequate in terms of clinical information supplied, but this fell following the introduction of the patient care pathway. The QOF prevalence of CKD in 2007 (2.4%) and 2008 (2.9%) was lower than that derived from local laboratory data (6, 9%) and published studies (6, 8%) and did not correlate with related chronic medical conditions. The prevalence of CKD varied markedly between Local Health Board (LHB) regions (1.7%–3.7% in 2007, 1.8%–4.2% in 2008).

Conclusions: Our data demonstrates the increase in workload in nephrology outpatients since the introduction of eGFR reporting and CKD QOF domains. Analysis of the QOF data show marked inconsistencies, particularly between reported CKD prevalence and established risk factors, thus raising concerns about the reliability of the data and the clinical care it purports to underpin.

O45

Development of an in vivo protocol for investigating natriuretic mechanisms in response to acute sodium loading in humans

LA Phillips¹, IM MacIntyre, DJ Webb
University of Edinburgh, UK
BMC Proceedings 2012, 6(Suppl 4):O45

Introduction: Extracellular fluid volume and arterial blood pressure are principally determined by total body sodium via osmoregulation. Dysregulation of mechanisms involved in maintaining sodium balance are therefore implicated in the development of hypertension. Hormonal mechanisms are thought to be critically involved in the regulation of natriuresis, and modification of these mechanisms may be a useful strategy in managing hypertension. Our aim was to establish an appropriate protocol for inducing natriuresis, which could be used to investigate the role of various hormone systems in maintaining sodium balance, and the effects of using pharmacological agents to manipulate these systems.

Methods: 0.9% Saline was administered to 6 healthy subjects at a rate of 500ml/hour over a period of two hours.

Results: Significant natriuresis occurred within 2 hours of sodium loading (p<0.01) and was induced independently of peripheral blood pressure.

Conclusions: By demonstrating that significant natriuresis can occur within the timeframe of our protocol, and that it is independent of non-hormonal mechanisms such as pressure natriuresis, we have developed a protocol that can be applied to the investigation and subsequent manipulation of hormonal control of natriuresis. We aim to use this protocol to study the role of the endothelin system in natriuresis.

O46

Association between kidney function and mortality among incident metformin users: a retrospective cohort study

M Schorr^{1*}, L Bresee², A Soo^{2,3}, B Hemmelgarn²
¹Department of Medicine, Royal College of Surgeons in Ireland; ²Department of Community Health Sciences, University of Calgary, Canada; ³Department of Medicine, University of Calgary, Canada
BMC Proceedings 2012, 6(Suppl 4):O46

Introduction: Metformin is first-line therapy for people with type 2 diabetes. Due to potential lactic acidosis it is contraindicated in patients with estimated glomerular filtration rate (eGFR) < 60 mL/min/1.73m², although little is known about its use among patients with chronic kidney disease (CKD). The objective of this study was to determine the association between kidney function and mortality among incident metformin users.

Methods: Databases of the Alberta Kidney Disease Network (<http://www.akdn.info>; Alberta, Canada) were used to identify a cohort aged 66 and older with diabetes who were incident metformin users from November 1, 2002 until March 31, 2008. The cohort was stratified on frequency of creatinine measurements prior to initiating metformin: none; a pre measurement only (6 months prior to metformin initiation); a post measurement only (within 1 year after); and both pre and post measurements. Patients were categorized by stage of CKD: 1 & 2 (≥ 60 mL/min/1.73m²; reference); 3a (45 - 59 mL/min/1.73m²); 3b (30 - 44 mL/min/1.73m²); 4 & 5 (< 30 mL/min/1.73m²); and no measurements. A Cox proportional hazards model was used to determine the association between kidney function and mortality, controlling for demographics, Charlson morbidity scores, hypertension, and visits to general practitioners.

Results: Of the 22,051 new users of metformin, 1,766 (8.0%) did not have a creatinine measurement before or after metformin initiation. Baseline characteristics were similar across groups stratified by frequency of creatinine measurements. A larger proportion of patients who had no creatinine measurements were rural-residing (31.3%) compared to those with pre (17.5%), post (21.1%) and both (15.8%) measurements. Of the subset with a measured eGFR, 25% of incident metformin users had eGFR <60mL/min. There was a small significant increase in the risk of mortality in incident metformin users with CKD stage 3b only (HR: 1.15 ; 95% CI: 1.04-1.28) compared to people with an eGFR of ≥60 mL/min/1.73m².

Conclusions: Metformin was commonly prescribed to patients with decreased kidney function, and did not appear to be associated with an increased risk of death.

O47

Modulation of Prrx1 transcriptional activity by phosphorylation

AS Pessoa¹, R Soares-dos-Reis², M Falcão², M Matos², CB Monteiro², FA Monteiro², C Reguenga^{2*}, D Lima^{1,2}
¹Departamento de Biologia Experimental, Faculdade de Medicina, Universidade do Porto, Portugal; ²IBMC Instituto de Biologia Molecular e Celular, Universidade do Porto, Portugal
E-mail: creguenga@med.up.pt
BMC Proceedings 2012, 6(Suppl 4):O47

Introduction: Prrx1 is a homeodomain transcription factor essential for the connectivity and survival of nociceptive neurons in the mouse embryo dorsal root ganglion (DRG) and spinal cord (SC). Prrx1^{-/-} mice show altered patterning of nociceptive afferent projections to the dorsal SC (dSC), neuronal loss, reduced nociception and failure to thrive. Prrx1 displays a multiple band pattern on western-blot (WB), which is abrogated by incubation with a phosphatase. Our aim is to further characterize the nature and sites of Prrx1 post-translational modifications and their impact on its function.

Methods: Mice were dissected and nuclear extracts of DRG and dSC of mouse embryos (from embryonic day 12.5 to post-natal day 14) were prepared using a Triton-sucrose buffer and analysed by WB. This time-course analysis was further completed by 2D-electrophoresis (isoelectric focusing followed by SDS-PAGE) of embryonic and post-natal dSC extracts. Furthermore, nuclei of ND7/23 cells (a DRG-derived cell-line with nociceptive properties) and embryonic dSC were incubated with a GA³⁺ immobilized metal ion affinity chromatography resin, with affinity for phosphopeptides. Constructs corresponding to truncated versions of Prrx1 were generated by molecular cloning, and their WB band pattern, transcriptional activity and DNA-binding activity were assessed by luciferase-reporter assays and by a modified DNA pull-down assay. CNBr chemical cleavage of recombinant protein was performed to enhance this analysis. Moreover, site-directed mutagenesis was performed for an evolutionarily conserved putative phosphorylation site which was subjected to the same analysis.

Results: Prxl1 is highly phosphorylated and its phosphorylation state varies in a time and tissue specific manner. Phosphorylation seems to occur throughout the protein, but mainly in the N-terminus (encompassing a DNA-binding domain) and in the C-terminus (containing a conserved putative regulatory domain). Evolutionary conserved site analysis revealed a highly conserved phosphorylation site in the homedomain, whose mutation impairs transcriptional activation, but not DNA-binding. Luciferase reporter assays of truncated versions of Prxl1 have identified the N-terminus as sufficient for the DNA-binding and transcriptional activity of Prxl1.

Conclusions: Altogether, our results show that Prxl1 is mainly phosphorylated in the C-terminus and in the N-terminus. Moreover, these phosphorylations probably play a fundamental role in the regulation of Prxl1 transcriptional activity in nociceptive neurons.

O48

An audit of referral patterns for glioblastoma patients in Beaumont hospital

J Clerkin

Royal College of Surgeons in Ireland

BMC Proceedings 2012, 6(Suppl 4):O48

Introduction: This audit examined the referral patterns for newly diagnosed glioblastoma patients at a specialised tertiary referral centre, to uncover any intrinsic delays within the system. Differences in the interval for admission and surgery in relation to different referral sources and symptomatology were analysed. Such delays negatively impact on patient care.

Methods: Medical case notes for 81 histologically confirmed GBM patients who underwent surgery in Beaumont hospital in 2010 were examined. Information regarding patient demographics, referral source, symptomatology and dates of first presentation, CT scanning, admission and surgery were extracted.

Results: The median time from CT diagnosis to admission was 6 days, and 3.3 days for subsequent surgery. Variations existed between referral sources, with those presenting to A+E with neurological deficits being diagnosed more promptly.

Conclusions: Newly diagnosed glioblastoma patients experience delays in accessing neurosurgical care with location of first presentation and severity of symptomatology being the most influential factors.

O49

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BMC Proceedings 2012, 6(Suppl 4):O49

Abstract withdrawn:

O50

A new preclinical-year revision course designed and taught by clinical-year students: analysis of tutees' perceived confidence in an innovative teaching model

M Prottý, J Mann, M Mohammed, C Wiskin

College of Medical and Dental Sciences, University of Birmingham, UK

BMC Proceedings 2012, 6(Suppl 4):O50

Introduction: The GMC has emphasized the importance of teaching skills for doctors and recommended that training for these skills is introduced early on in the medical education curriculum. One way to achieve this is in the form of near-peer assisted learning, where junior medical students are taught by senior ones. We here report the development of an extensive near-peer teaching project at the University of Birmingham and its impact on tutees. To evaluate the impact this near-peer teaching project has had on the perception of junior medical students of their confidence in their knowledge of the topics covered.

Methods: The course was fully designed and delivered by three medical students in the clinical years and consisted of 76 hours of teaching in total, split equally between year 1 and 2 preclinical topics. Tutees were

asked to complete evaluation forms before and after each session, answering a range of questions that included general demographic details as well as a self-rating of confidence in the topic taught before and after on a 100mm visual analogue scale (VAS).

Results: The average overall student rating of their perceived self-confidence in the topics before the sessions was 42.6. All sessions individually showed significant increases in confidence ratings after the sessions, with an average rating of 61.7 ($p < 0.01$).

Conclusions: The near-peer teaching model was widely accepted by the tutees and significantly improved the confidence in the topics taught. Further studies need to be done to determine the value of such models in core medical curricula.

O51

Group exercise improves chronic pain in South Florida older adults

N Kapila^{1*}, H Florez², S Dang², L Oropesa²

¹Royal College of Surgeons in Ireland; ²University of Miami, USA

BMC Proceedings 2012, 6(Suppl 4):O51

Introduction: Chronic pain in older adults is a serious and debilitating issue, often overlooked and mismanaged by primary care physicians. Chronic pain affects 25-50% of community dwelling older adults, and 45-80% of older adults residing in long-term care facilities. Exercise in geriatric populations is necessary to maintain mobility and quality of life. We analyzed 129 Veterans at the Miami VA Medical Center who were enrolled in an evidence based exercise program. The objective of this study was to determine the impact of an evidence-based exercise program on chronic pain in the older adults of South Florida.

Methods: Quasi-experimental study in a community-based Veterans Affairs Healthcare System. Adults ($n=129$), ages 66.5 ± 5.6 y, with Body Mass Index (BMI) of 34.8 ± 6.2 . 98.5% male were enrolled in the MOVE! Weight Management Program. Participants were divided into two groups: Good Adherence (GA=55) and Poor Adherence (PA=74) where $GA \geq 50$ and $PA < 50$, according to class attendance, a program consisting of 1-hour sessions three times per week. Pain was assessed using the Brief Pain Inventory (BPI), a 16 question survey scoring Pain Interference (PI) and Pain Severity (PS). Data was collected at baseline, 4 months, and 1 year and analyzed using covariance.

Results: The GA and PA groups had similar demographic, anthropometric, metabolic and pain profiles at baseline. After four months, the GA group achieved greater improvements in PI (3.2 ± 2.7 , $p = 0.03$). Moreover, age was a significant factor influencing improvements on PS change. After four months, the GA group had considerable improvement in physical function using the Hand Grip (HG) (3.8 ± 0.9 , $p = 0.004$). After one year changes were significant where the GA group had improvement in HG (8.4 ± 1.4 , $p = 0.007$). After one year, the GA group noted less fatigue (-13.8 ± 3.7 , $p = 0.006$) than initially reported.

Conclusions: The data suggests that good adherence to an exercise program is an integral component for pain relief and management, physical function, and fatigue. The data presented can lay a foundation for future improvements in pain management for the geriatric population.

O52

Abstract withdrawn

BMC Proceedings 2012, 6(Suppl 4):O52

Abstract withdrawn:

O53

Long term health consequences of a career in professional horse racing: the prevalence of pain amongst retired race jockeys

A Tomkinson^{1*}, H Watts¹, AL Mackinnon², RJ O'Connor³

¹University of Leeds, UK; ²Professional Jockey's Association; ³Academic Department of Rehabilitation Medicine, Leeds Institute of Molecular Medicine, University of Leeds, Leeds, UK

BMC Proceedings 2012, 6(Suppl 4):O53

Introduction: Horse racing is an exhilarating and high-risk sport. Over 500 jockeys were injured in the UK in the last two decades. Jockeys have racing careers lasting up to 40 years, yet little is known about the long-term consequences of multiple falls and the consequent impact on health. The aim of this study is to establish the impact of musculoskeletal injuries in retired jockeys.

Methods: A prospective, cross-sectional survey of retired jockeys registered with the Professional Jockey Association using a questionnaire to examine current musculoskeletal pain (measured using a numerical rating scale) in nine key anatomical areas, previous injuries and treatments for injuries.

Results: One hundred and twenty retired jockeys returned questionnaires; 90% had experienced a musculoskeletal injury. Mean total pain at rest was 11. There is a significantly greater total score for pain with movement (13; $p < 0.05$). Pain in the lower back was most common. Eighty percent of respondents believed the pain they experience now is as a result of the injuries they sustained during their racing career; 22 respondents' careers ended due to one or more musculoskeletal injury.

Conclusions: There is a higher prevalence of pain in this sample population than the general population. The most common area for pain was the lower back and this is in common with the findings of studies of the general population and in retirees of other sports. This clinical relevance of these findings is that there is an occupational health hazard of a career in race riding as it can lead to pain in later life.

POSTER PRESENTATIONS

P1

The role of cardiac glycosides in influencing breast cancer cell proliferation

KD Quinlan^{*}, MB Owens, ADK Hill, AM Hopkins
Department of Surgery, Royal College of Surgeons in Ireland, Education & Research Centre, Beaumont Hospital, Dublin, Ireland
BMC Proceedings 2012, **6**(Suppl 4):P1

Introduction: Cardiac Glycosides (CGs) are commonly used to treat congestive heart failure. CGs inhibit the Sodium Potassium ATPase (Na⁺/K⁺ ATPase) pump. Interestingly, CGs have been suggested to inhibit proliferation and migration of breast cancer cells. A pool of non-pumping Na⁺/K⁺ ATPase reportedly localizes in specific membrane organelles, caveolae, by interacting with the structural protein caveolin-1. It has been postulated that Na⁺/K⁺ ATPase forms a complex with caveolin-1 and the tyrosine kinase Src, and that binding of CGs to Na⁺/K⁺ ATPase activates Src-dependent signalling cascades. In this project we explored whether CGs reduce proliferation in breast cancer cells and whether these effects might involve Src and ERK (Extracellular-signal-Regulated Kinases).

Methods: MDA-MB 231 cells [highly-invasive breast cancer cells] were transfected with siRNA to knock down caveolin-1 expression. MDA-MB-231 cells in which caveolin-1 was knocked down and MCF 10A cells (non-invasive breast cancer cells) were treated with CGs and subjected to MTT proliferation assays. MCF 7 cells (weakly-invasive breast cancer cells) were treated with the Src inhibitor PP2 in the presence or absence of CGs and analysed by western blotting for phosphorylated Src and phosphorylated ERK.

Results: High dose CGs (Digoxin >150nM, Ouabain >10nM, Oleandrin >100nM) reduced proliferation in MCF 10A cells over 72 hrs. Caveolin-1 was successfully knocked-down in MDA-MB 231 cells, but this did not appear to abrogate the anti-proliferative effects of CGs. Early results suggest that phospho-Src and phospho-ERK expression were increased in MCF 7 cells treated with Digoxin. Interestingly, this was not abrogated by pre-treatment with the Src inhibitor PP2.

Conclusions: This project has demonstrated that CGs exert anti-proliferative effects on a range of breast cancer cell lines. Early results suggest that the effects of CGs may not be directly linked to Src and ERK signalling. Ongoing work is determining whether caveolin-1 knockdown alters the anti-proliferative response to CG treatment. We suggest that further exploration of the mechanisms whereby CGs inhibit proliferation may reveal potential uses for CGs as anti-cancer drugs in the future.

P2

A profile of emergency readmissions to Department of Surgery, Victoria Hospital, Blackpool

G Samra^{*}, K Mehta
Blackpool Fylde and Wyre NHS Hospitals Trust, UK
BMC Proceedings 2012, **6**(Suppl 4):P2

Introduction: For several years an increasing number of patients are being readmitted to hospital as an emergency soon after their initial discharge. The reasons behind such readmissions are highly complex, and studies have so far failed to identify the definitive drivers of this trend.

Aims: To create a profile of emergency readmissions to the Department of Surgery, Victoria Hospital, Blackpool (June-July 2010) encompassing the following profile elements: Patient demographics, source of admission, surgical specialty involved in patient care, duration of hospital stay during admissions, gap between discharge and readmission, reason for readmission, surgical procedure and investigation during admissions.

Methods: Data Source: Informatics Department and patient admission register on Surgical Assessment Unit (Retrospective data collection); Data Compilation: Patient Admission Database (PAD); N = 68.

Results: Age distribution: 33.8% of patients readmitted were 41-60 years old and 29.4% were >61 years old. Gender distribution: No significant difference in the gender distribution of patients readmitted. Source of first admission: 61.7% of patients readmitted were referred from GP and 33.8% of patients readmitted were referred from AE as the first source of admission. Specialty distribution: General Surgery 77%; Hepato-biliary 8%; Breast 4%; Vascular 4%; Colo-rectal 3%; Urology 4%. Duration of stay: The average duration of stay during the first admission was 5 days. The average gap between discharge and readmission was 7 days. The average duration of stay during the first admission was 10 days. Reason for readmission: Same Diagnosis 57%; Pain 18%; Bleeding 4%; Infection 6%; Constipation 4%; Nausea-vomiting 2%; Other reason 9%. Procedure on first admission (top three): 1. Appendectomy, 2. Incision and drainage of abscess, 3. Circumcision. Procedure on second admission (top 3): 1. Catheter change, 2. Incision and drainage of abscess, 3. Cholecystectomy.

Conclusions: Elderly patients admitted for less than a week from primary care as emergency admissions with general surgical complaints have a high risk of readmission. This study identifies patient, health-care service and disease variables that relate to high readmission rates and lays the foundation for addressing pertinent issues.

P3

Characterising an aromatase inhibitor resistant breast cancer cell line

E Harris^{1*}, D Varešlija², J O'Hara², A Hill², L Young²
¹Royal College of Surgeons in Ireland; ²Endocrine Oncology Research, Department of Surgery, Royal College of Surgeons in Ireland
BMC Proceedings 2012, **6**(Suppl 4):P3

Introduction: Aromatase inhibitors (AI) are a novel adjuvant endocrine treatment for estrogen receptor (ER)-positive, postmenopausal breast cancer. They function by inhibiting the aromatase enzyme that converts androgens into estrogens. AIs have demonstrated excellent efficacy in clinical trials and have shown supremacy over Tamoxifen. However, prolonged use of AIs can lead to acquired resistance. This resistance is characterised by aberrant ER signalling and crosstalk with growth factor pathways. CyclinD1 is currently being investigated in the lab in an AI resistant breast cancer cell line (Let-R) and there is evidence of differential gene expression when compared to classical genes such as p52. In Let-R cells, cyclinD1 expression appears to remain estrogen regulated. It is thought that this is not solely regulated through ER but through estrogen signalling to c-jun N-terminal kinase (JNK). This study aims to characterise the Let-R cell line created in the lab and to optimise an ER α knockdown in Let-R cells.

Methods: Parental MCF-7, aromatase-overexpressing (Aro) and Let-R cell lines were used to investigate protein expression levels of ER α , cyclinD1, JNK and c-jun using Western blots. Cells were transfected with ER α siRNA to optimise the knockdown in Let-R cells.

Results: Let-R cells have higher levels of ER α compared to Aros. CyclinD1 basal levels are elevated in Aro cells compared to Let-Rs. Levels of JNK

and c-jun are higher in Let-R cells compared to Aros. A highly effective ER α knockdown in Let-R cells was optimized.

Conclusions: The significant ER α knockdown achieved in the Let-R cells will enable further examination of knockdown effects on protein levels and mRNA expression. Elevated expression of ER α in the Let-R cells observed is consistent with the association between AI resistance and ER hypersensitivity. In resistant cells, the decrease in basal levels of CyclinD1 may be partly responsible for the lack of regulation of classical genes like pS2, previously detected by the lab. The elevated levels of JNK and c-jun observed in Let-R cells supports the theory of crosstalk between the ER and growth factor pathways in resistance. Furthermore, it would be of interest to accompany AI treatments with growth factor inhibitors to further our understanding of endocrine resistance.

P4

Operative implications of the small aortic root

LM Lucuta^{1*}, SL Mosteoru¹, M Gaspar^{1,2}, H Feier^{1,2}

¹"Victor Babeş" University of Medicine and Pharmacy, Timișoara, Romania;

²Timișoara Institute of Cardiovascular Medicine, IInd Cardiovascular Surgery Department, Romania

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Introduction: Replacement of the aortic valve with a mechanical prosthesis when the annular diameter is small, meaning 21 mm or less, can present significant hemodynamic and technical problems, including patient-prosthesis mismatch and persistent heart failure. The aim of this paper is to assess the operative implications of the small aortic root during surgery.

Methods: Our study comprises of 46 patients operated during the last 3 years in the IInd Cardiovascular Surgery Department who received 19 and 21 mm aortic valves. There were 20 males (43.48%) and 26 females (56.52%) in our cohort. The mean age was 57 years (ranging from 17 to 78). The most frequent diagnosis was degenerative aortic stenosis (59%) followed by rheumatic aortic disease (22%). The preoperative indexed aortic valve orifice was 0.58 cm²/m² and the mean maximum transaortic gradient was 82 mm Hg. The follow-up period was around 22.58 \pm 12.19 months.

Results: There were 3 deaths out of which 2 were intraoperative in our series (6.52% and 4.35%, respectively). All had 19 mm valves implanted, of which one after aortic annulus enlargement and their theoretical indexed effective orifice area was smaller than 0.65 cm²/m² in all cases. A total of 8 (17.39%) patients had 19 mm valves and 38 (82.61%) had 21 mm prosthetic valves.

Conclusions: The small aortic root is a serious operative risk. Based on the available valve types and preoperative body surface area the minimal recommended prosthesis size can be determined. Enlargement of the aortic annulus should be considered more frequently in these cases.

P5

Perioperative and short-term results of the surgical treatment of infective endocarditis

SL Mosteoru^{1*}, LM Lucuta¹, M Gaspar^{1,2}, H Feier^{1,2}

¹"Victor Babeş" University of Medicine and Pharmacy, Timișoara, Romania;

²Timișoara Institute of Cardiovascular Medicine, IInd Cardiovascular Surgery Department, Romania

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Introduction: Infective endocarditis is defined as the infection of the endocardial surface of the heart, which may include one or more heart valves or the mural endocardium. It results in severe valvular insufficiency, which may lead to congestive heart failure, and myocardial abscesses. One of the most feared complications is thromboembolism, through infected emboli. The purpose of this paper is to assess the perioperative and short term results of the IInd Cardiovascular Surgery Department in the treatment of infective endocarditis during a three year period, from January the first, 2002 to September the first, 2005.

Methods: We conducted a study on 31 patients operated upon during this timeframe. They represent 0.81% of the total number of 3795 surgical procedures performed in our clinic. 83.87% were male, with a mean age of 47.41 years. Eighteen (18/31, 58.06 %) were acute cases, out of which 29,03% (9/31) had the pathogenic agent identified by hemocultures and culture of the explanted valves. Three patients presented preoperative

peripheral embolic events (9.67%). The aortic valve was affected in 74.19% cases (23/31), the mitral valve in 41.93% (13/31) whereas there was a single tricuspid valve lesion (3.22%, 1/31). Three of these cases were redo procedures (9.67%).

Results: There were 35 valve replacements performed, 2 associated tricuspid plasties and two patients benefited from associated procedures: triple coronary artery bypass grafting and ascending aortic replacement. One patient presented a false aneurysm of the aortic root. The prosthesis used were mechanical (23/31, 74.19%), biological (6/31, 19.35%), homograft (1/31, 3.22%) or autograft (1/31, 3.22%). The operative (<30 days) mortality was 3.22% (a single patient expired). The mean follow up period was 15.708.54 months. Global survival at 1,6 and 12 months was 95.654.25%.

Conclusions: Infective endocarditis is a severe and potentially lethal disease but if a proper management is observed, there is a strong determinant for survival as proved by our study where the surgical treatment offers a short term survival which is not different from the one in the general population.

P6

Phenylketonuria - genetic, clinical and therapeutic aspects

A Murariu^{1*}, R Magopet¹, SO Salceanu¹, O Murariu¹, E Petrescu^{1,2}

¹University of Medicine and Pharmacy "Grigore T. Popa", Iasi, Romania;

²"Saint Spiridon" University Laboratory, Iasi, Romania

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Introduction: Phenylketonuria (PKU) is an autosomal recessive inborn error of phenylalanine (Phe) metabolism caused by mutations in phenylalanine hydroxylase (*PAH*) gene. It is one of the most prevalent metabolic disorders, with a high frequency (around 1/10,000) among Caucasians.

Biochemistry and genetics of PKU: The normal route for Phe metabolism is its hydroxylation to tyrosine, catalyzed by PAH and requiring tetrahydrobiopterin as a cofactor. The human *PAH* gene is located on chromosome 12q23.2 and contains 13 exons. More than 500 disease-causing mutations have been identified in patients with PKU or hyperphenylalaninaemia (HPA), 67% of them being missense mutations. Most of them result in severe enzyme deficiency generating the PKU phenotype, but some are associated with a "non-PKU HPA" phenotype. Since the *PAH* gene is biallelic, most patients are compound heterozygotes.

Clinical manifestations and pathogenesis of PKU: Untreated PKU is associated with an abnormal phenotype including growth failure, microcephaly, seizures and intellectual impairment. The pathogenesis of these abnormalities involves the neurotoxic effects of hyperphenylalaninaemia, which are linked to Tyr deficiency (leading to a decrease in catecholamine neurotransmitters), the effect of elevated Phe concentrations on transport of other aminoacids across the blood brain barrier, accumulation of toxic by-products of Phe metabolism. Magnetic resonance imaging (MRI) has revealed white matter lesions in the brain of adult PKU patients, including hypomyelination and demyelination.

Diagnosis of PKU: Newborn screening programs exist in many countries, based on the detection of a high blood Phe concentration. Conventional PKU diagnosis is based on the aberrant metabolic phenotype and the detection of disease causing mutations at the *PAH* locus. Available methods include Southern blotting, restriction enzyme digestion, gene sequencing. PKU mutation analysis is particularly useful in the detection of carriers, for prenatal diagnosis.

Treatment of PKU: The foundation of PKU treatment is a low Phe diet which prevents the development of the neurological and psychological changes. It is recommended that dietary restriction should be started early (within one month of birth) and be followed for life. The existence of newborn screening programs and early dietary intervention allow children with PKU to live relatively normal lives.

P7

Quality of life in children with type 1 diabetes in Kuwait

M Abdul-Rasoul^{*}, F AlOtaibi, M AlMahdi, H AlKandari

Kuwait University, Kuwait

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Introduction: Recent research has shown that health-related quality of life (HRQOL) in children and adolescents with type 1 diabetes is markedly affected, resembling that of children with other chronic diseases, like malignancies. The objective of the study was to investigate the HRQOL in children and adolescents with diabetes in Kuwait.

Methods: A total of 341 children and adolescents aged 5-18 years and 408 parents of children aged 2-18 years participated in the study. They were recruited from diabetes out-patient clinics in the 6 governorate hospitals. The pediatric quality of life inventory (PedsQL) questionnaire was used.

Results: The mean (+/-SD) age of participants was 9+/-1.2 years, and the duration of diabetes was 4.9+/- 2 years. The Cronbach a coefficient of child and parent report generally approached 0.825, indicating their internal consistency and reliability. There was a statistically significant difference in the total scores among children and their parents in all 3 age groups ($p < 0.001$), however, to a lower degree in the adolescent group, where the main difference was in the "worry" section where parents reported worse QOL. The total scores showed good psychological adjustment of children and adolescents with diabetes, mean score (+/- SD) was 85.7 (12.45), with slightly worse QOL in the 8-12 year old (71.2+/-13.1) $p > 0.05$. Growing age, HbA1c, mode of insulin therapy, SES did not influence QOL of children with diabetes.

Conclusions: Children and adolescents with type 1 diabetes and their parents in Kuwait showed good psychological adjustment and QOL. Parents appeared to be more worried than their adolescents about the effectiveness of the treatment and the long term complications.

P8

Epidemiology of pediatric spinal fractures; implications for injury prevention

M Al-Mohammadi¹, I Marwa, M Zamakhshary, K Al-bedah, S Al-enazi, A Al-Habib

King Saud University, Saudi Arabia
BMC Proceedings 2012, **6**(Suppl 4):P8

Introduction: The epidemiology of traumatic spinal fractures in children was not well described in the developing world. Our objective was to describe the causes and mechanism of pediatric spinal injuries, the frequency of spinal cord injury, and their outcome in the pediatric population. This has significant implications for allocation of public health resources and development of prevention programs.

Methods: Retrospective chart review of all patients at or below 18 years of age who sustained spinal fractures from May 2001 to May 2009. They were identified through a database at level one-trauma center.

Results: One hundred and twenty cases of spinal fractures were identified. This constituted 3.2% of all pediatric injuries and 1.3% of traumas at all ages during the period of the study. Mean age was 13.5 years (males 83.8%). There were more spinal injuries with increasing age. The mechanism of injury was significantly variable among different age groups ($p = 0.002$). While Motor Vehicle Collision (MVC) was the commonest cause in the age groups from 12-15.9 yrs (59%) and from 16-18 yrs (80%), pedestrian injury was more common in the younger age groups of 0-5.9 yrs and 6-11.9 yrs at 38.5% and 42% respectively. Overall, MVC was the commonest mechanism of injury (60.8%). Among MVC cases where seat belt status was known, 90.6% did not have seat belts on. Cervical spine was the most commonly affected level (55.8%) with more than one affected spinal level in 23.3%. Spinal cord injury was found in 36.7% of cases. Spinal surgery was performed in 46% of cases. The overall mortality was 8.4%; half of them were pedestrian injuries. 20.8% were discharged with neurological deficit.

Conclusions: Our series is one of the largest to date in addressing pediatric spinal fractures. Our study raises significant concerns regarding safety on the roads given the high frequency of MVC and pedestrian injuries.

P9

Vitamin D deficiency in pregnancy – a failure of public health policy?

S Sivalokanathan¹, T McAree², B Jacobs³, T Manickavasagar¹, L Brennan¹, P Bassett¹, S Rainbow², M Blair¹

¹Imperial College London, UK; ²North West London Hospital NHS Trust, UK; ³RNOH NHS Trust, Middlesex, UK

BMC Proceedings 2012, **6**(Suppl 4):P9

Introduction: In order to understand the extent of serum vitamin D deficiency we measured vitamin D levels in an unselected multi-ethnic population of pregnant women. We report the prevalence of insufficiency and deficiency, explore risk factors and discuss the public health implications. This report may be the first of its kind.

Methods: Sample women with sufficient stored serum were randomly selected from among all women who had delivered in year 2008/09. Serum vitamin D levels were determined using liquid chromatography coupled to tandem mass spectrometry. Vitamin D levels were analyzed with respect to ethnicity (as marker for skin tone), calendar quartile, body mass index trimester and parity. Deficiency was defined as < 25 nmol/L, insufficiency 25 - 75 nmol/L, and adequacy > 75 nmol/L.

Results: Three hundred and forty six women were included and represented the total population in terms of skin tone, quartile, BMI, gestation, and parity. Overall, 18% (95% CI: 15% to 23%) of sample women had adequate vitamin D levels; 36% were deficient, 45% insufficient. Among women with dark skin, only 8% (95% CI: 5% to 12%) had adequate levels compared to 43% (95% CI: 33% to 53%) of those with light skin. Obese women were found have significantly lower Vitamin D levels than non-obese women.

Conclusions: Vitamin D deficiency and insufficiency are prevalent year round among pregnant women in northwest London, especially those with darker skin. Existing supplementation guidelines should be supported however; other measures are required to improve status among all women.

P10

Effects of maternal hypoxia on placental levels of oxidative stress markers in COMT^{-/-} and C57 mice

DF Thambiraj¹, CF Rueda-Clausen², J Stanley², R Poudel², S Davidge², P Baker²

¹Royal College of Surgeons in Ireland, Ireland; ²Department of Obstetrics and Gynecology, University of Alberta, Canada
BMC Proceedings 2012, **6**(Suppl 4):P10

Introduction: In preeclampsia, it is believed that widespread endothelial dysfunction leads to reduced placental perfusion and increased oxidative stress. Oxidative stress is the accumulation of reactive oxygen species (ROS) such as superoxide (O₂⁻), nitric oxide (NO), and peroxynitrite (ONOO⁻). Our lab has previously established a colony of transgenic mice that do not express catechol-O-methyl transferase (COMT^{-/-}). COMT produces 2-methoxyestradiol (2-ME), a potent vasodilator that is normally increased in pregnancy. Pregnant COMT^{-/-} mice exhibit a phenotype similar to the one observed in preeclampsia. We hypothesize that COMT^{-/-} mice have a decreased tolerance to prenatal hypoxic insults, characterized by an increase in placental oxidative stress when compared to control (C57) mice exposed to similar conditions.

Methods: From gestational day 10.5 to 18.5, COMT^{-/-} and C57 control mice were randomized to either normoxic (21% O₂) or hypoxic (10.5% O₂) conditions. Placentas were dissected at day 18.5, cryopreserved, sliced, and stained for imaging via fluorescent microscopy. Dihydroethidium (DHE) stains were used to assess superoxide levels, while Nitrotyrosine stains were used to assess peroxynitrite levels. Liver sections were used as a standardizing control. Data is presented as mean and standard error of the mean (SEM) or median and interquartile range (IQR) depending on data distribution. The amount of luminescence relative to the liver control were plotted and then analyzed via two-way ANOVA and a Bonferroni post-hoc test.

Results: No significant differences in placental levels of superoxide were observed among experimental groups (effect of genotype $p = 0.17$, hypoxia $p = 0.82$ and interaction $p = 0.54$). Under normoxic conditions, placental levels of peroxynitrite were comparable between COMT^{-/-} and C57 mice. Under hypoxic conditions however, placental tissues from COMT^{-/-} hypoxic ($p < 0.05$), but not C57 hypoxic mice ($p = 0.40$), exhibited a significant increase in peroxynitrite relative to tissues from normoxic animals with the same genotype.

Conclusions: There appears to be a synergistic interaction between genotype and hypoxia in the development of increased placental oxidative stress. The observed increase of peroxynitrite in placental tissues from COMT^{-/-} hypoxic mice may be the result of increased

superoxide production, increased bioavailability of nitric oxide, or a combination of both.

P11

Management of shoulder dystocia: a re-audit

N Lynch^{*}, C Emmerson

Medical School, Newcastle University, UK

E-mail: Nicola.Lynch1@ncl.ac.uk

BMC Proceedings 2012, 6(Suppl 4):P11

Introduction: Shoulder dystocia is an obstetric emergency with raised neonatal morbidity including brachial plexus injury. With much litigation the Clinical Negligence Scheme for Trusts (CNST) advise minimum standards for documentation.

Objectives: To audit compliance against documentation standards, analyse the manoeuvres used to resolve shoulder dystocia and quantify brachial plexus injuries.

Methods: Follow-up of a 2009 audit. Cases between April 2010 and January 2011 were identified from the birth register and incident reports. Documentation was analysed against the minimum standards. Manoeuvres used to resolve each case were examined. The risk manager confirmed which cases resulted in brachial plexus injury.

Results: There were 23 cases of shoulder dystocia; one case had to be discounted. Documentation had declined since 2009 when all areas were 100% documented. Only 65% of cases recorded the manoeuvres used, their timing and stage of delivery. The CNST additionally requires the sequence of manoeuvres and who conducted them which was not routinely recorded. McRobert's position resolved 50% of cases, the remainder escalated to suprapubic pressure (14%), entry manoeuvres (18%) and posterior arm removal (18%). Only 41% recorded the staff attending and the time they arrived. The rate of brachial plexus injury rose from 6.7% to 15.8%.

Conclusions: Documentation is poor in several areas with two major CNST requirements not being met. The pro forma must be updated to capture the necessary details. Skill drills should be re-commenced in the department to minimise the risk of brachial plexus injury.

P12

Hyposkillia as a cause of delayed diagnosis of acute appendicitis in the second half of pregnancy

A Rodionova

I.M. Sechenov First Moscow State Medical University, Moscow, Russia

BMC Proceedings 2012, 6(Suppl 4):P12

Introduction: The incidence of acute appendicitis in pregnancy is 1:2000 (1:700 ÷ 3000); 60% suffer from acute appendicitis in the first half of pregnancy. When perforated appendicitis complicated by diffuse peritonitis, maternal mortality rate reaches 16.7%, with perinatal loss in the 19.4-50%. Explainable limitation application of instrumental diagnostic methods at different stages of pregnancy makes to rely more on clinical experience of doctor. However, the ubiquitous phenomenon observed by the lack of clinical skills (hyposkillia) sometimes leads to tragic mistakes.

Aims: 1) improve practical skills of students' in the diagnosis of acute appendicitis in pregnant women; 2) identify the symptoms of acute appendicitis in pregnant women in the first and the second half; 3) the ultimate goal of this study is the reduction of maternal and perinatal mortality.

Methods: Based on our experience and literature data, we identified 32 symptoms of acute appendicitis in pregnant women. Retrospectively analyzed medical histories of pregnant patients with acute appendicitis. In the first half (up to 20-21 weeks) pregnancy was observed 73% of patients in the second-27%. On the first day since the disease come to the clinic 51% in the second 27%, the third-22%.

Results: Of 32 existent symptoms we identified 3 of the most important. For the first half of pregnancy were typical symptoms that characterize the local changes (muscular protection of the right iliac region, palpation and percussion soreness abdominal wall infiltration in the pelvis, hypertonicity of the uterus), their reliability was 98%. The main diagnosis of acute appendicitis in the second half of pregnancy should take into account evidence of systemic response to inflammation (fever, tachycardia, high

leukocytosis, shift to the left of leukocyte formula). Taken into account as nausea, repeated vomiting, the weakening of intestinal motility and diarrhea. Typical local symptoms of acute appendicitis are the symptoms of Brands, Michelson, Ridvan.

Conclusions: 1) The study showed the reliability of physical signs of acute appendicitis in the first half of pregnancy- 98%. The complementary physical examination in the later stages of gestation ultrasound diagnosis helped to establish the correct diagnosis in 90%; 2) In our opinion, the implementation of the study will lead to a significant reduction of maternal and perinatal mortality.

P13

Pathways to psychiatric care in South India and their socio-demographic and attitudinal correlates

S Faizan^{*}, BN Raveesh, LS Ravindra, K Sharath

Department of Psychiatry, Mysore Medical College and Research Institute (MMC&RI), India

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Introduction: An understanding of the pathways to psychiatric care is critically important as a means of informing national policy and re-directing the meager resources towards better management of psychiatric patients. Since pathways to psychiatric care in South India are poorly understood we conducted a study in Mysore, South India to determine the various pathways to Psychiatric care. The aim is to determine the health-seeking behaviour of mentally ill patients and the attitude to mental illness and its treatment in Mysore, South India.

Methods: A cross sectional hospital based study was conducted among 104 consecutive, newly registered consenting patients/informants presenting to the Outpatient clinic of a Tertiary hospital in Mysore over 2 months. A Pre tested, Semi structured Interview based on a translated version of the WHO Encounter form was used to obtain Socio-Demographic details and referral patterns and a Pre Validated Modified Opinion of Mental Illness Scale was used to obtain information regarding their attitude to mental illness. Diagnosis was made based on ICD-10. The Chi square test, t test and Kruskal Wallis test were used to analyze the data.

Results: Allopathic practitioners (AP's) were the first carers for 51.0%; Religious healers (RH's) for 26.9%, while only 22.1% consulted Mental Health Professional (MHP) as First carer. An average delay of 26.12 weeks was seen from the onset of illness to presentation at our clinic. The longest delay was associated with patients who had AP's as first carer [38.94 weeks (mean)] while the patients directly consulting an MHP had the least delay [4.69 weeks (mean)]. The first carers were consulted largely at the suggestion of family members and relatives (66.3%). The appearance of RH's in the pathway was associated with greater superstitious beliefs about mental illness ($P < 0.001$), rural residence ($P < 0.05$) and lower educational attainment ($P < 0.05$). Treatment costs (49 %) and confidentiality concerns (35.6%) were reported as major barriers to obtaining psychiatric care.

Conclusions: Three Major Pathways including referral by AP's, pathway through RH's and direct consultation of MHP were seen. The study highlights areas of importance requiring attention in order to create a broad community based mental health care system. These areas include the education of AP's and RH's regarding mental illness, education programs to counter the stigma, superstitions and misconceptions surrounding mental illness, counseling family members of psychiatric patients and addressing concerns regarding confidentiality and treatment costs.

Limitations: Since the information was gathered retrospectively recall bias may influence results to some extent.

P14

The attitude of non-psychiatry doctors to psychiatry and its correlates in Mysore, South India

S Faizan^{1*}, BN Raveesh¹, V Anjali², R Lakshmanagowda Sujatha¹, K Sharath¹

¹Department of Psychiatry, Mysore Medical College and Research Institute (MMC&RI), India; ²Mysore Medical College and Research Institute (MMC&RI), India

BMC Proceedings 2012, 6(Suppl 4):P14

Introduction: The attitude of Non Psychiatry Doctors (NPD's) and Non psychiatry Post Graduate Residents (NPPG's) towards Psychiatry is

crucially important because of its influence on impressionable medical students and the large number of psychiatric patients who present to Non Psychiatry Doctors like General Practitioners. Since the data on the attitude of NPD's and NPPG's to psychiatry in India is sparse we carried out this survey in a Tertiary Government teaching Hospital in Mysore, South India.

Methods: A cross sectional survey of a sample consisting of 50 consenting Non Psychiatry Doctors (NPD's) and 85 Non Psychiatry Post Graduate Residents (NPPG's) obtained after proportional stratified random sampling based on specialty was carried out using a Pre Piloted modified version of the Attitude Toward Psychiatry (ATP-30) scale. Additional data related to their experience of Psychiatry as a discipline were recorded. The data collected were analyzed using the Chi square test and t test.

Results: The response rate of NPD's was 72% ($n = 36$ from $N = 50$) and that for NPPG's was 76.4% ($n = 65$ from $N = 85$). The mean score of the Modified ATP scale used was 64.19 for NPD's and 61.76 for NPPG's (neutral attitude score 50). NPD's and NPPG's who believed in the importance of psychiatry in the curriculum referred more patients for psychiatric consultations ($P < 0.05$), more NPD's than NPPG's felt that Psychiatry helps in the development of meaningful relationships with patients ($P < 0.05$). More NPD's than NPPG's ($P < 0.05$), among NPD's more recent graduates ($P < 0.005$) and those who were younger ($P < 0.05$) and with fewer years of practice were much more likely to believe that psychiatry has advanced considerably in recent years ($P < 0.05$). Asked what would help them most in better detecting Psychiatric patients among patients presenting to them most NPD's reported more time in consultations (86.11%) while most NPPG's reported more appropriate interview techniques (76.92%).

Conclusions: Non Psychiatry Doctors (NPD's) and Non Psychiatry Postgraduates (NPPG's) at a tertiary hospital in Mysore have a moderately positive attitude to Psychiatry. NPD's have a slightly more positive total attitude to Psychiatry as compared with NPPG's. NPPG's, while having a positive general attitude to psychiatry are more skeptical of recent advances in psychiatry and its importance as a discipline than their older mentors. This highlights the urgent need for better psychiatric education and more effective communication of the latest psychiatric knowledge to the younger generation of doctors.

P15

The importance of mucinous phenotype in colorectal carcinomas

E Ozpinar*, E Yanik, G Durmus, A Aydin, S Erdamar
Department of Pathology, Istanbul University Cerrahpasa Medical Faculty, Istanbul, Turkey

BMC Proceedings 2012, 6(Suppl 4):P15

Introduction: Colorectal carcinomas (CRC) are one of the leading causes of cancer deaths, but their clinicopathological characteristics are not well documented in Turkish population. We retrospectively analyzed 535 resection specimens of patients diagnosed with primary CRC between the years of 2000-2007, to refine the pathological criteria for the routine analyses of colorectal cancer specimens. We also analysed that how mucin content can effect biological behavior in CRC cases.

Methods: We retrospectively analysed the files of 535 consecutive patients diagnosed with primary CRC between the years of 2000-2007 and the specimens were obtained from archives of Cerrahpasa Medical Faculty, Pathology Department and were reevaluated. Clinicopathological features such as age; gender; size, location and histological grade of the tumor; presence and percentage of mucin in the tumor; lymphatic vessel invasion (LVI); blood vessel invasion (BVI); perineural invasion (PNI); total number of dissected lymph node (TLN) and lymph node metastases (LNM) and tumor invasion level (pT) were analyzed.

Results: Mean age of patients was 64.2 ± 10.5 (23-95) and female to male ratio was 0.8. Most common tumor locations were rectum and sigmoid colon in both females (28.4%; 22.3%) and males (29.1%; 24.1%), respectively. Only 3.5% of cases were younger than 40 years old. According to invasion level, 2.7% cases were T1 ($n=14$), 25% T2 ($n=131$); 36% T3 ($n=189$); 36.4% T4 ($n=191$). Invasion level was significantly correlated with tumor necrosis ($p=0.000$), LVI ($p=0.000$), BVI ($p=0.042$), PNI ($p=0.000$), LN metastases ($p=0.005$). Mean value of TLN was 16.1 (0-68) and LNM was 2.36 (0-56). 43% of all cases had lymph node metastases.

Mean number of LNM was associated with higher invasion levels; 1.70 for T2, 1.89 for T3 and 2.01 for T4. Increased mucin secretion was correlated with increased level of tumor invasion ($p=0.037$); 29% for T2, 44% for T3 and 38% for T4. Tumors located in the ascending and transverse colon had no mucinous component. Tumors located more distally had higher extracellular mucin secretion.

Conclusions: Our results indicate that clinicopathological characteristics of our series are similar to the other studies. The presence and degree of mucin secretion is related with the prognosis and therefore should be included in routine colorectal cancer pathology reports.

P16

Relapsed breast adenocarcinoma presenting as pulmonary lymphangitic carcinomatosis

KP Loh^{1*}, H Ghorab¹, S Kosuri², M Shah²

¹Royal College of Surgeons in Ireland; ²New York Presbyterian Hospital - Weill Cornell Medical College, USA

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Introduction: Pulmonary lymphangitic carcinomatosis is an entity referring to diffuse infiltration and obstruction of pulmonary parenchymal lymphatic channels by a tumour. The most common malignancies involved are the breasts, lung, colon and stomach. Previous studies have shown that at autopsy up to 24% of patients who died of metastatic breast cancer had pulmonary lymphangitic spread. However the diagnosis of lymphangitic carcinomatosis can be challenging due to its non-specific symptoms which include dyspnoea and cough, which occur in a variety of lung diseases.

Case report: We describe a case of a 84-year old woman who presented with a 9 months history of progressive exertional dyspnoea with occasional productive cough. She was subsequently diagnosed with pulmonary embolism and chronic obstructive pulmonary disease. However despite treatment her dyspnoea had progressed to orthopnoea. In addition, she had a significant past medical history of non-metastatic breast ductal adenocarcinoma diagnosed 19 years ago for which she underwent a right mastectomy as well as being put on tamoxifen for 5 years, she was also diagnosed with tuberculosis 70 years ago. On physical examination, she required 4L of oxygen but was otherwise haemodynamically stable. There were decreased breath sounds at the lung bases bilaterally but more prominent on the right. In addition, the right middle and lower lobes of the lung were dull on percussion. Finally auscultation revealed fine crepitations at the lung bases bilaterally. In terms of investigations her CXR and CT-PE demonstrated a pleural effusion. She then underwent thoracocentesis, pleural biopsy, pleurodesis and right wedge resection. Pathology examination revealed malignant cells stained positive for estrogen receptor (ER), progesterone receptor (PR) and Gross Cystic Disease Fluid Protein-15 (GCDPF15) confirming lymphangitic spread of breast adenocarcinoma to the lung parenchyma. She was treated with paclitaxel and corticosteroids for palliative purpose.

Conclusions: In summary, pulmonary lymphangitic carcinomatosis is a common entity in patients with a history of breast carcinoma. Clinical awareness and accurate diagnosis with pathology will guide appropriate treatment and improve the quality of life of the patients. In this patient, her dyspnoea is highly likely to be multifactorial although chemotherapy has significantly improved her breathing.

P17

In vitro characterisation of Spontaneous Mammary Tumour (SMT1) cells and its matched lung metastatic (SMT1L) cells

TC Wong^{1*}, Y Smith^{2†}, JH Harney²

¹School of Biomolecular and Biomedical Sciences, University College Dublin, Ireland; ²Molecular and Cellular Therapeutics, Royal College of Surgeons in Ireland, Ireland

BMC Proceedings 2012, 6(Suppl 4):P17

Introduction: Syngeneic mouse models of breast cancer offer the researcher an important tool with which to investigate the molecular mechanisms of cancer. These models generally arise through the isolation of breast cancer cells from spontaneous breast tumours in mice. As the cells have originated from a spontaneous tumour, they are immunologically and

genetically compatible to a more clinically relevant breast cancer model. The aim of this study was to characterise newly isolated Spontaneous Mammary Tumour (SMT1) cells and its matched lung metastatic cells (SMT1L) from a spontaneous mammary tumour that arose in a 2 year old female BALB/c mouse.

Methods: SMT1 and SMT1L cells were cultured in DMEM High Glucose supplemented with 10% FBS. Western blot analysis using cell lysates from SMT cells was used to confirm that cells were of epithelial origin, to characterise the cells for biomarkers of breast cancer subtypes: oestrogen receptor, progesterone receptor, ErbB2 (Her2) and Epidermal Growth Factor Receptor (EGFR) expression and to verify expression of the Insulin-like Growth Factor (IGF) pathway (the IGF receptor (IGF-IR) and Insulin Receptor (IR)). RT-PCR was used to confirm if SMT cells express Pregnancy-Associated Plasma Protein A (PAPP-A), a regulator of IGFBP4. The growth rates and effect of IGF-1 on growth of both SMT cell lines were compared by SRB proliferation assay.

Results: SMT1 and SMT1L cells are of epithelial origin. SMT cell types expressed HER2, EGFR, and PR suggesting a more aggressive phenotype. The lack of ER positivity confirms this is not the main pathway of signalling in SMT cells. SMT cells express features of the IGF pathway including IR- β , IGF-1R β and PAPP-A. SMT1 and SMT1L proliferation rates *in vitro* were similar, with both cell lines responding to IGF-1 stimulation showing increased growth compared to untreated controls.

Conclusions: Based on expression of common biomarkers of breast cancer subtypes, SMT cells may be more aggressive cell line. Expression of members of the IGF pathway and response to IGF-I stimulation indicates that inhibiting IGF may be of value in inhibiting growth of SMT tumours, and it may offer another preclinical syngeneic model of breast cancer.

P18

Prevention or treatment of bronchial carcinoma: a literature review

BL Green

University of Leeds, UK

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Introduction: Bronchial carcinoma is the second most commonly diagnosed cancer, and is currently the number one cause of cancer death in the UK. Smoking is the major risk factor for the development of bronchial carcinoma and trends in smoking habits are reflected in incidence rates. Poor survival is due in part, to late development of symptoms, and a tendency for the presence of metastatic spread at presentation. This study aims to evaluate the efficacy of current treatments and whether or not prevention strategies should play a more prominent role in the future.

Methods: Studies were selected for review from the electronic databases Medline and Pubmed, based on keyword search terms. Articles were then screened by title and abstract to assess their suitability for inclusion. Selected article references were screened manually for further source material. All articles were limited by English language and publication date post 1995.

Results: Key studies indicate that treatment for limited stage disease is often curative, however over 60% of patients present with stage III or IV disease, and therefore treatment in this group is often palliative. Preventative measures such as the smoking ban have not yet been proven to reduce incidence rates, although studies have shown decreased levels of environmental carcinogens since the ban. Chemoprevention studies utilising nutritional supplementation identified selenium as reducing the relative risk of developing bronchial carcinoma. Furthermore, whilst screening programmes have shown earlier detection rates, this has not decreased associated mortality.

Conclusions: The review suggests that current treatments are often limited by the extent of the disease process, and as such, are largely palliative. Late presentation and early metastases account for this situation and although there is limited data, current evidence suggests that screening programmes may not show any benefit in terms of mortality. It is therefore evident that more needs to be done to help prevent the development of bronchial carcinoma. Although preventative measures such as the smoking ban are likely to reduce mortality, this is evidently a long-term solution and interim measures, such as chemoprevention, should be considered in high risk groups.

P19

Abstract withdrawn

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P20

Clinical aspects of cervical cancer patients treated in 2010 in "Saint Spiridon" University Hospital from Iasi, Romania

SO Salceanu¹, A Murariu¹, O Murariu¹, DPT Iancu^{1,2}

¹University of Medicine and Pharmacy "Grigore T. Popa", Iasi, Romania;

²"Saint Spiridon" University Hospital, Iasi, Romania

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Introduction: Romania occupies the first place in Europe concerning cervical cancer incidence and mortality (European Cancer Observatory - 2008 cancer fact sheet). Our objective is to give a preliminary assessment of the cervical cancer situation in the Eastern part of Romania.

Methods: In 2010 we collected data from 94 new patients with cervical cancer (age 28 - 85) who were treated in "Saint Spiridon" University Hospital from Iasi, Romania. 41 of the patients were from several cities from Romania (Birlad, Botosani, Iasi, Pascani, Radauti, Roman, Suceava, Vaslui) and 53 patients were from rural areas.

Results: The staging was done according to the FIGO classification: 14,89% of the patients were stage I, 46,80% stage II, 26,59% stage III and 11,70% of the patients were stage IV. The biopsy results showed that 85,10% of all patients had squamous cell carcinoma, 9,57% adenocarcinoma and 5,31% adenosquamous carcinoma. Multiparity was 86,17% among the cervical cancer patients and only 21,27% of the patients were smokers. 20,21% of the patients had a family history of malignancies. Blood tests were performed and 57,44% of the patients had secondary anaemia and 26,59% had leucopenia. The debut of the cervical cancer consisted in: abnormal bleeding in 85,10% of patients, pelvic pain in 47,87% of patients and 28,72% of women had purulent vaginal discharge. Other debut symptoms include: dyspareunia, abdominal cramps, nausea, frequent urination, etc. 67,03% of patients were treated using surgery, chemotherapy and external beam radiation and in 32,97% of women palliative chemotherapy and external beam radiation were used.

Conclusions: The early detection of the malignant disease is the most efficient and effective strategy to successfully fight cervical cancer. This preliminary study based only on patients treated in 2010 shows that the screening programme must be improved. It is important to include a bigger number of patients so that we can draw a conclusion based on statistical significant data. It is also important to develop quality-of-life and cervical cancer risk factors questionnaires in order to assess better the cervical cancer situation in Romania.

P21

Keratin 15, transcobalamin I and homeobox gene Hox-B13 expression in breast phyllodes tumors: novel markers in biological classification

L Chong¹, PH Tan²

¹Royal College of Surgeons in Ireland, Ireland; ²Singapore General Hospital, Singapore

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Introduction: Breast phyllodes tumors are rare neoplasms which present challenges for histological classification. Microscopic features are not always predictive of clinical behavior, and scarce data exist on the prognostic role of biological markers. Our study evaluated a series of 145 phyllodes tumors diagnosed at the Department of Pathology, Singapore General Hospital between 2006 and 2009, incorporating 91 (62.8%) benign, 40 (27.6%) borderline, and 14 (9.7%) malignant phyllodes tumors.

Methods: Antibodies to keratin 15 (KRT15), transcobalamin I (TCN1), and homeobox gene Hox-B13 (HOXB13) were applied to sections cut from tissue microarray blocks. KRT15 and TCN1 positivity was defined when there was reactivity of 1% or more stromal cells, while HOXB13 positivity was defined using a H-score of 100 and above.

Results: Positive immunohistochemical expression for KRT15, TCN1, and HOXB13 was seen in 21 (14.5%), 96 (66.2%), and 66 (45.5%) of tumors, respectively. Stromal expression of KRT15, TCN1, and HOXB13 was significantly correlated with tumor grade ($P < 0.001$, $P < 0.001$, $P = 0.012$), stromal hypercellularity ($P = 0.005$, $P < 0.001$, $P = 0.023$), mitotic activity ($P < 0.001$), and microscopic borders ($P = 0.006$, $P < 0.001$, $P = 0.011$).

Conclusions: Co-expression of TCN1 and HOXB13 was seen in 21 of 91 (23.1%) benign, 18 of 40 (45.0%) borderline, and 11 of 14 (78.6%) malignant tumors, suggesting that the dual-marker panels of TCN1 and HOXB13 might be helpful in classifying borderline and malignant tumors. Although expression of TCN1 alone was present in all malignant and 34 of 40 (85.0%) borderline tumors, a combined panel with HOXB13 excluded some benign cases and was a better discriminant for a significant proportion of borderline and malignant tumors.

P22

Bile acids differentially impact on platelet activation

J Tan^{1*}, E Reddy², D Murphy², S Keely³, S O'Neill²

¹Royal College of Surgeons in Ireland, Ireland; ²Molecular and Cellular Therapeutics, Royal College of Surgeons in Ireland, Ireland; ³Molecular Medicine, Royal College of Surgeons in Ireland, Ireland

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Introduction: Platelets are well-established mediators of inflammatory responses throughout the body. Increased platelet activity occurs in the intestinal mucosa in conditions of Inflammatory Bowel Disease (IBD), where it may contribute to the mucosal fibrosis associated with these diseases. The bile acids, ursodeoxycholic acid (UDCA), deoxycholic acid (DCA) and tauroursodeoxycholic acid (TUDCA) were shown to regulate inflammatory responses in the intestine. The aim of this study is to analyse the impact of these bile acids on platelet activation.

Methods: Gel-filtered platelets were isolated from human blood. They were incubated with bile acids as follows: UDCA (250mM, 175mM, 100mM, 10mM); DCA and TUDCA (500mM, 100mM, 10mM) for 10 minutes at 37°C before activation with thrombin (0.1U/ml) and collagen (38mg/ml). The effects of the bile acids on platelet aggregation were examined using light transmission platelet aggregometry. Bile acid effects on platelet ADP secretion were assessed by measuring the level of luminescence from a luciferin-luciferase 96 well-based assay. Effects of the bile acids on platelet morphology were examined by confocal microscopy. An MTT (3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide)-based assay was used to assess the effects of the bile acids on platelet viability.

Results: UDCA inhibited platelet aggregation and ADP secretion in platelets activated with collagen, but not thrombin, in a concentration-dependent manner ($n=4$, $p<0.05$). However, DCA and TUDCA inhibited platelet aggregation and ADP secretion in platelets activated with either agonist ($n=4$, $p<0.05$). Confocal microscopy revealed decreased adhesion of platelets to collagen with increasing bile acid concentrations. However, UDCA had no effect on the adhesion of thrombin (0.1U/ml)-activated platelets to collagen. On the other hand, the presence of DCA and TUDCA reduced the adhesion of thrombin-activated platelets to collagen. MTT assays showed no significant effect of the bile acids on platelet viability.

Conclusions: While the effects of DCA and TUDCA appear to be more global on platelet activation, the effects of UDCA are more specific towards collagen activation of platelets. While the mechanisms involved remain unknown, these results indicate UDCA may specifically act as an antagonist to the collagen receptor, $\alpha_2\beta_1$. Such actions of UDCA could have important implications for therapeutically reducing thrombotic/fibrotic events in patients with IBD.

P23

Long-term outcomes of acute coronary syndrome in young adults: findings from GULF RACE-2

M Almohammadi^{*}, A Hersi, KF Alhabib, AA Alsheikh-Ali, K Sulaiman, H Alfaleh, S Alsaif, W Almahmood, N Asaad, H Amin, A Al-Motarreb, J Al Suwaidi
King Saud University, Saudi Arabia

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Introduction: Long term outcome of young patients presenting with acute coronary syndrome (ACS) has not been described in the Middle East. Accordingly we sought to evaluate the risk factors, presentations, clinical assessments and long-term outcome of these patients.

Methods: We used a multi-center, prospective Gulf RACE-2 (Registry of Acute Coronary Events) to determine the long term outcome of young patients with ACS.

Results: The study enrolled 7930 ACS patients from 65 hospitals in 6 Arabian Gulf countries, during the period of October 2008 to June 2009. Of these, 686 (8.7%) were 40 years of age or younger, with mean age of 36 +/- 4 years. Compared to older patients, the young patients had higher prevalence of STEMI (62% vs 42.9%, $P < 0.001$) and male gender (91.3% vs 77.6, $P < 0.001$). The major risk factor was smoking (61.5% vs 33.2%, $P < 0.001$). Furthermore, the percentage of diabetes, hypertension and hyperlipidemia were significantly low in younger age group (18% vs 42.2%), (21.4% vs 50.2%) and (22% vs 38.9%), respectively. $P < 0.001$. In addition, young patients were less likely to have heart failure on admission (10.5% vs 24.1%, $P < 0.001$). No statistical significance was observed between the two groups in terms of in hospital morbidity except for congestive heart failure which was more predominant in older patients (6.1% vs 13.8%, $P < 0.001$). The rate of coronary angiogram was significantly higher in younger patients (35.9% vs 32.2%, $P = 0.003$). However, there was no statistical significance in PCI between the two groups (17.1% vs 14.2%, $P = 0.247$). In ACS younger group in-hospital mortality rate (1.9% vs 4.8%, $P < 0.001$), 30 days (4.4% vs 8.5%, $P < 0.001$) and 1-year (5.7% vs 13.2%, $P < 0.001$) were significantly lower than patients with ACS >40 years of age.

Conclusions: ACS in young patients presents distinct risk factors and clinical characteristics. There is a need for prevention programs to control smoking epidemic by targeting young adults in the population. Our study document for the first time long-term outcome among young patients with ACS in the Middle East.

P24

Mitral regurgitation secondary to ventricular remodelling post myocardial infarction – an echocardiographic study

N Thakur^{1*}, A Ionac^{1,2}

¹"Victor Babes" University of Medicine and Pharmacy, Timisoara, Romania;

²Timisoara Institute of Cardiovascular Medicine, Romania

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Introduction: To evaluate the incidence and mechanism of mitral regurgitation [MR] as a complication in the evolution of myocardial infarction [MI]. Patient population: 95 patients diagnosed on the basis of clinical, electrocardiographic and coronary-angiographic data with coronary artery disease [CAD] with a history of MI with haemodynamically significant MR ($>=$ grade II).

• All patients were treated in accordance with standard therapy for CAD and heart failure

• 56 Patients with PTCA of the obstructed coronary artery

• 28 Patients treated with CABG out of these 19 patients with mitral valvuloplasty

Criteria for exclusion from the study: patients with organic MR (mitral valve modified as a result of rheumatic fever, infectious endocarditis or degeneration) or with myxomatous mitral valve prolapse.

Methods: Transthoracic echocardiography [TTE] for all patients and transoesophageal echocardiography for 75 patients.

Results: Sixty eight patients had grade II MR and twenty seven grade III MR. The aetiology of MR was:

• Papillary muscle rupture – 1 patient

• Papillary muscle ischaemia (inferior or posterior MI) – 15 patients

• Dilatation and remodeling of left ventricle [LV] – 58 patients (13 out of these 58 patients had LV aneurysms)

• Mixed mechanism (papillary muscle ischaemia and LV dilatation) – 21 patients

Conclusions: MR appears frequently in the evolution of patients with MI, even in patients subjected to a standard line of treatment. Echocardiography is a very important tool for the evaluation of severity and more importantly, that of aetiology. Understanding of the mechanism of MR offers the possibility to find a correct treatment option and where necessary, an optimal surgical intervention.

P25

Prevalence of coronary atherosclerotic plaque in patients with a low coronary artery calcium score

VS Mehta^{1*}, M Patel¹, S Venuraju², A Jeevarethinam², A Yerramasu², A Lahiri^{2,3,4}

¹University College London, UK; ²Clinical Imaging and Research Centre Wellington Hospital, London, UK; ³Imperial College, London, UK; ⁴Middlesex University, London, UK

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Introduction: Patients with low coronary artery calcium (CAC) scores are deemed to be at low risk of future cardiac events. It is unclear what the prevalence of significant coronary disease is in these patients. It is also not established what cluster of traditional cardiovascular risk factors predict the presence of any coronary plaque in this group. We hypothesised patients with a calcium score of <10 Agatston Units may have significant coronary plaque lesions that would be picked up on a more robust method for the evaluation of coronary plaques such as CT coronary angiography (CTCA).

Methods: We evaluated 96 patients with coronary artery calcium score <10 Au referred for CTCA with suspected coronary disease. Plaques causing >50% stenosis on CTCA were deemed to be significant. Univariate and multivariate analysis using logistic regression was carried out to evaluate which traditional risk factors predicted the presence of plaque in this cohort. A p-value<0.05 was considered significant.

Results: Of the 96 patients included in the study, a mean age of 52.7±11.4 and 62.5% were male. Presence of any coronary artery plaque was noted in 19 (19.8%) of patients and 7 (7.3%) of patients had at least one plaque lesion causing >50% stenosis. In patients with zero calcium score only, 11 (13.9%) and 3 (3.8%) patients were found to have any coronary plaque and at least one plaque causing >50% stenosis. In a univariate analysis of the entire cohort, only age (p=0.02), presence of any calcium (p=0.01), and family history of significant CAD (p=0.037) were found as predictors of plaque, whereas in a multivariate analysis, only age and calcium score retained significance (p=0.05 and 0.035).

Conclusions: Patients with a low CAC score (<10 Au) have a low but not insignificant prevalence of >50% plaque and a full angiographic evaluation of the coronary arteries is essential in older patients and those with a strong family history of CAD. Our study was not powered to predict the effect of risk factors on the prevalence of significant plaque in the entire cohort as well as in the sub-group of patients with zero calcium.

P26

A retrospective, observational, epidemiological study of meningococcal meningitis cases in the UK in relation to the change in smoking legislation

H Preston

University of Edinburgh, UK

BMC Proceedings 2012, 6(Suppl 4):P26

Introduction: *Neisseria Meningitidis* is the greatest risk to young adults for fatal meningitis. It has been seen in other studies that smokers carry an increased amount of this bacteria and can be carriers for the infection. The aim of the study is to determine whether the smoking legislation brought into the UK has had an effect on the case numbers of meningococcal meningitis, as smoking in seen as a risk factor.

Methods: Data was obtained from HPS and HPA to get national figures over a decade spanning the smoking ban legislation.

Results: Results show that there has not been a dramatic decline in cases of meningococcal meningitis since the introduction of the smoking ban.

Conclusions: There should be continued surveillance in the future to see if there is a long term trend with rates of meningococcal meningitis cases.

P27

Antimicrobial activity of indole-based melatonin analogues

H Shirinzadeh^{1*}, AD Yilmaz¹, N Yücel², N Altanlar³, S Suzen¹, S Özden¹

¹Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Ankara University, Turkey; ²Department of Pharmaceutical Microbiology, Faculty of Pharmacy, Ankara University, Turkey; ³Department of Microbiology, Gazi University, Faculty of Arts of Sciences, Ankara, Turkey

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Introduction: Methicillin-Resistant *Staphylococcus aureus* (MRSA) and Vancomycin-Resistant *Enterococcus* (VRE) have accomplished important rates of colonization and infection in most intensive care units. These multidrug-resistant strains of MRSA and VRE have been causing serious problems in health care. The rising clinical importance of drug-resistant pathogens has lent necessity to drug development research. In recent years, many 1H-indole derivatives including also Schiff base structures have been reported to exhibit chemotherapeutic properties such as antiviral, anti-tuberculosis, antifungal, and antibacterial activity. Hydrazone-type compounds containing an azomethine also represent a significant class of compounds for new drug development. The hydrazone group in molecules has an essential role in antimicrobial activity. It has been claimed that a number of hydrazide-hydrazone derivatives possess interesting antibacterial-antifungal and antituberculosis activities.

Methods: A series of indole-3-aldehyde and 5-bromoindole-3-aldehyde hydrazide and hydrazones was evaluated for their in vitro antimicrobial activities using the 2-fold serial dilution technique against *S. aureus*, MRSA, *E. coli*, *B. subtilis* and *C. albicans*. Compounds that have halogenated phenyl ring, displayed better activity against MRSA and significant activity against *S. aureus* relative to ampicillin. As a part of our ongoing study nineteen indole hydrazone derivatives were tested for antibacterial activity using the 2-fold serial dilution technique.

Results: The structure-activity relationships of the investigated indol hydrazone derivatives displayed that the aromaticity appeared to be significant for the antimicrobial activity. Generally, the activity of compounds was increased with the introduction of halogens in to the phenyl side chain. In this study compounds (2,4-difluoro), (2,5-difluoro), (3,5-difluoro), (3,5-dichloro), which have two "F" and two "Cl" atoms on the phenyl ring were found to be the most potent antimicrobial agents. Furthermore monohalogenated derivatives followed the dihalogenated compounds.

Conclusions: In the present study it was thought worthwhile to investigate combined two potential pharmacophores in a single medium and to evaluate them for their synergistic antimicrobial activity. These results indicating that the halogen atom plays an important role in the antimicrobial activity of Schiff bases. As a result, further studies are needed to better understand the efficacy of indole-3-aldehyde hydrazide-hydrazones for the development of new antimicrobial agents.

P28

Synthesis and antioxidant activity evaluations of melatonin based analogue indole-hydrazide/hydrazone derivatives

AD Yilmaz^{1*}, H Shirinzadeh¹, T Coban², S Suzen¹, S Özden¹

¹Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Ankara University, Turkey; ²Department of Pharmaceutical Toxicology, Faculty of Pharmacy, Ankara University, Turkey

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Introduction: Harmful effects of free radicals to the human body have been studied over the last decade. Overproduction of the free radicals can be responsible for tissue injuries that cause many health problems which include cancer, aging, heart diseases, neurological disorders, Alzheimer's disease, Huntington disease and so on. Melatonin (MLT), the main secretory product of the pineal gland is a well-known antioxidant and free radical scavenger. It is a neurohormone produced from the amino acid tryptophan. In our earlier studies, new MLT-based analogues with changes in the 5-methoxy and 2-acylaminoethyl groups of MLT were synthesized and tested for their in vitro antioxidant potency in the DPPH, superoxide dismutase and lipid peroxidation (LP) assays.

Methods: In this study 5-chloroindole-3-carboxaldehyde and phenyl hydrazine derivatives. All the compounds characterized and *in vitro* antioxidant activity was investigated against MLT and BHT.

Results: The synthesized compounds were tested for their antioxidant activities using DPPH and superoxide radical scavenging and LP inhibitory activity tests. Ten of the synthesized compounds showed strong inhibitory effect on the superoxide radical scavenging assay. Almost all the tested compounds possessed strong scavenging activity against the DPPH radical scavenging activity with IC50 values (2 to 60 µM).

Conclusions: MLT has redox properties because of the presence of an electron-rich aromatic ring system, which allows the indoleamine to easily

function as an electron donor^{12,13,31}. It is possible that making the indole ring more stable electronically helped to act as a better electro donor. MLT scavenges the radicals via nitrogen centred radical, the indolyl (or melatonyl) cation radical³². Introduction of an imine group in to the side chain increased the stability of the indole molecule by helping the delocalization of the electrons. This might help to have high free radical scavenging activity in the synthesized.

P29

Complementary and alternative medicine: knowledge, interest and attitudes of medical students

KP Loh^{1*}, H Ghorab¹, E Clarke¹, R Conroy², J Barlow³

¹Royal College of Surgeons in Ireland, Ireland; ²Division of Population Health Science, Royal College of Surgeons in Ireland, Ireland; ³Department of Pharmaceutical & Medicinal Chemistry, Royal College of Surgeons in Ireland, Ireland

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Introduction: Complementary and alternative medicine (CAM) is a growing industry in the healthcare system. It has been reported that medical students across the globe have an interest in learning about CAM in addition to conventional medicine. In Ireland, to date there has not been a study that evaluates the knowledge of, interest in and attitude of Irish medical students towards CAM. This research can serve as a pilot study to inform Irish medical schools on the need to introduce CAM into the medical curriculum.

Methods: The survey instrument was a modified design based on previously published studies carried out in other geographical areas. All medical students within the undergraduate and graduate entry (GEP) programmes at the Royal College of Surgeons in Ireland were invited to participate in the study. SPSS software was used to analyse the results of the questionnaires.

Results: The survey completion rate was 20.1%. A majority of students (78.4%) thought that CAM knowledge is important for their future career as physicians. Approximately 65% of students reported that they have not acquired sufficient knowledge about CAM from medical school, and 50.2% of students believe CAM should be incorporated into the medical curriculum. Pre-clinical years (49.4%) were suggested as the most appropriate time to learn about CAM, and lectures were rated as the best teaching method (46.0%). Knowledge of CAM modalities was generally rated as minimal or none by students. Among the 15 CAM modalities incorporated in the survey, massage, acupuncture and meditation received the highest interest from students. Students who believe in a religion had a higher interest in CAM ($P < 0.05$). In terms of their personal view, massage, spirituality and acupuncture received the highest positive responses. Attitudes towards CAM were positive from students. Lower willingness to use CAM was seen in clinical students ($p < 0.05$).

Conclusions: It is important for the faculty of Irish medical schools to consider the possibility of integrating CAM education into the conventional medical curriculum in a systematic manner to better prepare students in their future career.

P30

Prognoses for diagnoses: medical search online and "cyberchondria"

M Aiken^{*}, G Kirwan

Royal College of Surgeons in Ireland, Ireland

BMC Proceedings 2012, 6(Suppl 4):P30

Introduction: The Internet is a source of valuable medical information, however the Web has the potential to increase anxieties of people with no medical training when employed as a diagnostic procedure (White & Horvitz, 2009). Anxiety induced as a result of health related search online is an increasingly differentiated activity (Fox et al., 2000; Feldman, 2000; Lewis, 2006; Belling, 2006; Ravdin, 2008; White & Horvitz, 2009) and known in the field of cyberpsychology as cyberchondria. This literature review aims to review research studies that have investigated medical information seeking online in the general population.

Methods: Research journals from 2000-2011 were selected and studied to identify consistent and contrasting views. Themes identified were as follows; impact of technology on health related information seeking; the

role of symptom search concerning self-diagnostics online; knowledge empowered challenges to medical opinion; threats to traditional the doctor-patient relationships; consideration of the 'worried well', health anxiety, hypochondria, cyberchondria and online escalation; DSM-V task force recommendations regarding revisions to somatoform disorder classification; exploration of virtual factitious disorders; anonymity, self-disclosure, disinhibition, altruism and reassurance/support considered in the context of medical chat room forums online, these themes will be discussed in this literature review.

Results: Literature review indicates that health-related search technology impacts how information is disseminated, and can cause unnecessary anxiety (White & Horvitz, 2009). Knowledge, empowerment (Bastian, 2003), support, reassurance (Sillence & Briggs, 2007) and altruism (Adar & Huberman, 2000) may be positive aspects regarding medical search online, however the literature (Belling, 2006; Lewis, 2006; Ravdin, 2008; White & Horvitz, 2009) indicates that anxiety is likely to be a consequence of same, additionally emergence of the 'Google stack' in the consultation process is impacting on traditional doctor patient relationships (Belling, 2006; Lewis, 2006).

Conclusions: These findings are relevant for healthcare professionals, particularly regarding patient care and management, the Internet's capacity as an omnipresent delivery mechanism for medical search, coupled with known propensity to escalate online, makes a strong case for further study of this subject.

P31

Incidence, costs and outcomes of avoidable hospitalizations in a southern European country: is there room for improvement?

R Soares-dos-Reis, JA Freitas^{*}, A Costa-Pereira

Department of Health Information and Decision Sciences, Faculty of Medicine of the University of Porto, Portugal & CINTESIS, Centre for Research in Health Information Technologies, Faculty of Medicine of the University of Porto, Portugal

E-mail: alberto@med.up.pt

BMC Proceedings 2012, 6(Suppl 4):P31

Introduction: In healthcare, as in other areas, performance evaluation and outcomes monitoring are an ever increasing priority. This can be accomplished using quality indicators: monitoring and benchmarking tools which allow spatial and temporal comparisons. In the 1990's, following the work of John Billings and colleagues, the Agency for Healthcare Quality and Research (AHRQ), developed a set of area-level Prevention Quality Indicators (PQI), which can be calculated using readily available administrative data. PQIs are based on the concept of avoidable hospitalizations (AH): conditions for which adequate and timely primary care (PC) could have prevented or reduced the need for hospitalization (e.g. heart failure, hypertension, diabetes). We aim to apply these indicators to the Portuguese national health system (NHS), a state-financed universal coverage system, and ascertain time and regional trends and the AH financial and mortality burden.

Methods: Indicators were extracted from a nationwide inpatient database comprising 8 million records (2000-2007) using an SPSS syntax based on AHRQ PQI's technical specifications. The country was divided into 5 regions, corresponding to the Health Administrative regions (ARS). Financial costs were calculated based on Diagnosis-Related Group price tables and cost-quality ratio was based on ARS expenses. In-hospital mortality and length-of-stay (LOS) was also computed. Rates were age and sex standardized using direct standardization.

Results: The national AH total is 838.18/100,000 person-years, accounting for 9.7% of all hospitalizations. Elderly males were at highest risk for an AH. The best performing regions were Alentejo and the North, and the worst was the Centre. The North had the best quality-cost ratio. No clear time trends were observed. The mean AH mortality was 10% (database average 5%) and the average LOS was 2.4 days longer than the database average. The yearly direct cost of AH amounted to 200 million €.

Conclusions: We conclude that Portuguese administrative data is suitable for PQI calculation. AH represent a significant proportion of total hospitalizations and carry a substantial direct financial burden. No direct relationship between ARS expenditure and PC quality, as evaluated by PQIs, was found. Given the important regional asymmetries, there is certainly room for improving PC quality and abrogating these differences.

P32

Theoretical framework for determining hospital length of stay (LOS)

E Schorr

University of Calgary, Canada

BMC Proceedings 2012, 6(Suppl 4):P32

Introduction: Previous literature indicates many factors contribute to inpatient hospital length of stay (LOS). Unfortunately no comprehensive or theoretical model, which highlights the underlying processes affecting these relationships, exists. The purpose of this study was to generate a theoretical framework, using two prevalent medical conditions (acute myocardial infarction (AMI) and cesarean ('c') section), of the determinants of LOS.

Methods: A literature review was conducted using MEDLINE (OVID) and EMBASE databases. Search terms included 'length of stay' combined with 'determining or determinant or indicator. Additionally we used the same key terms as listed above and combined them with either 'acute myocardial infarction' or 'cesarean section'. A grey literature review was also completed. Articles whose primary focuses were not the determinants of LOS were excluded from the study. Articles containing only emergency department and trauma unit data were also excluded.

Results: Findings from the literature review propose a general model based on four categories of determinants 1) patient characteristics: medical history, healthcare knowledge, family support, religion, age/sex/gender/race, residence, type of procedure and severity of disease; 2) clinical caregiver characteristics: culture, specialty, training, team, quality of care and physician choice of prescribed medications; 3) characteristics of the social or family environment: school, peers, political systems, economics and community and 4) characteristics or properties of the healthcare system: admitting service (surgical vs. medical), structure of services, types of services and available technology, palliative care, insurance, long term care, access, setting occupancy, transfers between hospital and care settings venue (emergency vs. non emergency department) and geographic location (urban vs. rural).

Conclusions: The literature suggests that LOS is complex in nature, and cannot be determined by a single factor. A model of the determinants of length of stay, which can be applied across various medical settings, will help determine healthcare policy, cost, and planning and will ultimately allow future healthcare services to be both streamlined and standardized.

P33

'Sexual addiction': diagnosis and treatment in clinical practice

B Hughes

School of Social Work and Social Policy, Trinity College Dublin, Ireland

BMC Proceedings 2012, 6(Suppl 4):P33

Introduction: In western medicine emerging research evidence suggests a distinct psychological/biological phenomenon that manifests itself in 'out of control' sexual behaviour. Historically, this behaviour has been described as hypersexuality and compulsive sexual behaviour. Recently it is popularly called 'sexual addiction'.

The aim of this study is to obtain a clear understanding of the diagnostic and treatment issues experienced by healthcare providers who deal with the concept of 'sexual addiction' in clinical practice.

Methods: A qualitative approach was used. Data collection includes: pilot-study, focus-groups, questionnaires and interviews involving 87 adult participants consisting of 43 treatment providers who work with this phenomenon in clinical practice and 44 self-identified 'sexual addicts'. Ethical approval was obtained from the schools' ethics committee and consent was given by the participants. Interpretative Phenomenological Analysis (IPA) and Thematic Analysis (TA) are used for data analysis.

Results: Treatment providers report the presentation of a clinical condition popularly referred to as 'sexual addiction'. The main characteristics of this condition are intense sexual urges, recurring fantasies and out of control sexual behaviour. Treatment providers who clinically deal with this are working in the areas of medicine, sexual health, psychiatry, psychology and psychotherapy. The major clinical challenge is the lack of agreement on criteria and the absence of a scientific classification for this condition. Other concerns include diagnosis, treatment, disclosure and understanding the aetiology of 'sexual addiction'. Additionally, there is a high incidence of

dual addiction and co-morbid psychological conditions among those who present with 'sexual addiction'. There is a lack of clarity whether the 'sexually addictive' behaviour is the primary condition or whether it is a symptom of an underlying condition. In addition to a catalogue of negative consequences the 'sexual addict' is vulnerable to contracting sexual disease. Treatment is a multifaceted combination of medication, psychotherapy, 12-step fellowship programmes and education. There is a wide range of opinion among treatment providers on the concept of 'sexual addiction'.

Conclusion: Empirical research is required to investigate and critique the concept of 'sexual addiction'. Diagnostic criteria and classification need to be determined. Clinical training is necessary to diagnose, assess and treat this behaviour.

P34

Surveying the genetic factors effect to lack of palmaris longus muscle's tendon and prevalence of absence in the inhabitants of Eastern Azerbaijan

A Hashemiaghdam^{1*}, A Iranmehr¹, F Abolhassani², A Meysamie³, L Ghadakchi⁴

¹Faculty of Medicine, Tehran University of Medical Sciences, Iran;

²Department of Public Health, Faculty of Medicine, Tehran University of

Medical Sciences, Iran; ³Department of Anatomical Sciences, Faculty of

Medicine, Tehran University of Medical Sciences, Iran; ⁴Faculty of Medicine,

Tabriz University of Medical Sciences, Iran

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Introduction: Palmaris longus (PL) is phylogenetically classified as a retrogressive muscle with a long tendon. The length and location of the PL tendon makes it very useful in reconstructive surgery. Agenesis of PL tendon shows strong racial variations. Past studies show absence of 2.8% to 25% depending on ethnicity. Chinese have a low absence rate of 6.0% whilst Caucasian subjects had a high absence rate of 25%. The aim of this study is to determine the incidence of unilateral and bilateral absence of PL tendon for Eastern Azerbaijan region of Iran and surveying the genetic factors and environmental effects to lack of PL tendon.

Methods: Each subject's data are gathered in specific form. Individuals with history of injury or abnormality of the upper extremities were excluded. Writing and skill hand dominance and job type were recorded. The exercise was conducted with two different methods of assessment; standard test (Schaeffer's test), Thompson's test. In Schaeffer's test, volunteers were made to steady their forearm at 90° before opposing the thumb to the little finger with the wrist partially flexed. In Thompson's test, a fist was made followed by flexing the wrist against resistance with the thumb flexed over the fingers.

Results: Our study sample included 1247 subjects (50.6% males, 49.4% females). The prevalence of absence was 24.4% (17.2% unilaterally absent, 7.1% bilaterally absent) (p<0.0001; Chi-square test). The absence rate in male subjects (19.8%) was lower than female subjects (29.1%). In subjects with no absence in right hand, the absence in the left hand was 11.0% and subjects with no absence in their left hand, the absence in the right hand was 9.6% (p<0.0001; chi-square test). In cases with absence in left hand, the rate of bilaterally absence was 43.6% also same rate in subjects with absence in the right hand was 47.3% (p<0.0001; chi-square test).

Conclusions: Our data suggest that the prevalence of absence of Palmaris Longus tendon in our study sample in Iran has a high value of absence, similar to Caucasian samples. The absence rate was lower in male and right handed subjects.

P35

The diagnostic utility of gram stain microscopy in paediatric septic arthritis – a retrospective case study

J Wong^{*}, R Barksfield, R Hutchinson

Norwich Medical School, University of East Anglia and Norfolk and Norwich

University Hospital, UK

BMC Proceedings 2012, 6(Suppl 4):P35

Introduction: The diagnosis of septic arthritis in children remains challenging despite reasonable evidence for the use of laboratory tests in diagnosis. There is also limited data on the diagnostic utility of gram stain microscopy in diagnosis. We therefore aim to establish the diagnostic

utility of gram stain and predictive clinical and laboratory features of paediatric septic arthritis.

Methods: We conducted a retrospective review of all patients of 16 years and under that underwent aspiration with or without washout of suspected septic joint from January 2005 to March 2011. Cases were defined as any patient with an organism identified on microbiology culture. The association between clinical features, laboratory results, operative findings and gram stain examination were compared against final culture results with chi-square test (for categorical data) and Mann Whitney test (for non-parametric data).

Results: Twenty three paediatric patients were identified during the time period, of which 9 (39%) had positive culture. There was no statistically significant data to show that clinical features or operative findings were predictive of final results. Of the blood test results found, CRP has statistical significant rise ($p=0.01$) in culture positive (mean 33, IQR 8-293) septic joints compared to culture negative (mean 107, IQR 65-190) with CRP >65 rendering sensitivity 100% and specificity 78%. Gram stain microscopy showed 33.3% sensitivity and 100% specificity.

Conclusions: Presenting features, operative findings and most laboratory tests are unhelpful in predicting diagnosis for septic arthritis. However a high CRP (>65) may be useful diagnostic tool proven by high sensitivity. Positive gram stain is strongly predictive of culture positive septic arthritis although diagnosis cannot be excluded on the basis of negative gram stain. Further research should be conducted using CRP and gram stain alongside each other as diagnostic utility for paediatric septic arthritis as demonstrated by the research.

P36

Osteoporosis medication adherence – are the myths true or do patients take their CalciChew®?

G Burke^{1*}, G McCarthy²

¹School of Medicine, Royal College of Surgeons in Ireland, Ireland;

²Molecular & Cellular Therapeutics, Royal College of Surgeons in Ireland, Ireland

BMC Proceedings 2012, 6(Suppl 4):P36

Introduction & objectives: Osteoporosis is defined as a progressive systemic disease characterised by low bone mass and architectural deterioration of bone tissue, with consequent increased bone fragility. The disease is predominately a disease of postmenopausal women and those prescribed long-term oral corticosteroids, but may occur in all populations and ages. A large number of patients are treated for osteoporosis in Ireland and adherence is a major issue in its management. Poor adherence to osteoporosis treatment has been well documented and is a widely recognised problem, resulting in a huge burden on patients and the healthcare system. In particular, poor adherence results in an increased number of fractures and consequent pain and disability. The authors noted that patients frequently stated they did not wish to have their osteoporosis medication dispensed. In practice, a number of factors affect adherence to medication and there are numerous ways it can be improved. The objectives of this study were to ascertain the extent of failures to refill prescriptions for osteoporosis medications in the community setting, and to make recommendations.

Methods: An extensive literature review was carried out to obtain an overview of the topic under research. This was also used for comparative purposes. A retrospective review of prescription records of 200 patients (N=200 F=168 M=32) who were prescribed osteoporosis medications from January 2011- June 2011 was completed. Data from 17 pharmacies with mixed demographics in the Munster and south Leinster regions was used. The details recorded were the dates of refill, the number of refills per six months, number of concurrent medications including other osteoporosis treatments, gender, age and whether the patient paid for the medication or obtained it free of charge. Adherence was classified using the medication possession ratio (MPR).

Results & conclusions: There are a large and increasing number of osteoporosis medications on the market in Ireland. As described in the literature, adherence was sub-optimal. The adherence to oral calcium and vitamin D supplements was 48%, bisphosphonates 69%, Selective Oestrogen Receptor Modulator (SERM) 84%, Dual Action Bone Agent

(DABA) Strontium 81%. There were significant variations in adherence between the different classes of drugs and variations within the same class. This varied with patient demographics.

P37

Gluteal muscle activation during weight bearing exercises in a group of healthy subjects

X Huang^{*}, HP French

School of Physiotherapy, Royal College of Surgeons in Ireland, Ireland

BMC Proceedings 2012, 6(Suppl 4):P37

Introduction: Gluteus Maximus (GMax) and Gluteus Medius (GMed) muscles are commonly weakened in hip osteoarthritis (OA), and functional weight-bearing (WB) exercises are frequently prescribed for gluteal strengthening. Muscle activity as an indicator of muscle recruitment can be measured using electromyography (EMG), with recruitment of >45% maximal voluntary isometric contraction (MVIC) required for strengthening. The aim of this study was to compare gluteal muscle activation during three WB exercises. As no participants with hip OA volunteered over the time-frame of this study, methods and results for the symptom-free group only are presented.

Methods: Nineteen healthy, symptom-free participants (11 men, 8 women; mean±SD age, 48.68±6.66) were recruited. Surface EMG activity of GMax and GMed was measured bilaterally while participants performed 3 exercises: squat (SQ), right step up (RSU) and right step down (RSD). EMG data were normalized to each participant's MVIC. One way Analysis of variance was used to compare mean EMG activity across the three exercises for left and right GMax and GMed. Significance was set at $p<0.05$.

Results: All exercises produced mean EMG amplitudes less than 30% MVIC. RSU had the highest recruitment of R GMed (20.72±7.29%) and R GMax (13.07±10.73) whilst RSD had higher recruitment for L GMed (16.66±6.74 %). Squat produced the lowest activation for both GMax and GMed. There was no significant difference between GMax activation across the three exercises. Significant differences occurred between step-up and squat for GMed. No significant gender difference existed in magnitude of muscle activation during the three exercises.

Conclusions: Step-up was the most effective exercise for activating gluteal muscles. Our results suggest that these WB exercises may be beneficial for gluteal muscle endurance, rather than strength, training. These findings will be used to compare against activation levels for people with hip OA.

P38

Investigating the effect of corneal Herpes Simplex Virus-1 infection on Toll-Like Receptor expression in human peripheral blood mononuclear cells

T Chan¹, B Coffey, D Shahnazaryan, C Jefferies, C Murphy

Royal College of Surgeons in Ireland, Ireland

E-mail: tysonchan@rcsi.ie

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Introduction: Herpes Simplex keratitis (HSK), caused by Herpes Simplex Virus type 1 (HSV-1), is the leading cause of infectious corneal blindness in the western world [1]. Initial infection develops through ocular surface entry from droplet spread [2]. Once HSV-1 has breached the epithelial barrier of the ocular surface, it is recognized by Toll-Like Receptors (TLRs), which then activate the appropriate innate immune response. Despite the high prevalence of HSV-1, only a small minority of patients develop ocular manifestations. Therefore, we hypothesized that TLR expression and activity may be deregulated in patients with HSK, which would reflect in peripheral blood mononuclear cell (PBMC) responses observed in these patients. We investigated the effects of the TLR ligands 3, 4, 7 and 9 (as they are involved in anti-viral immune defence [3]) on cytokine induction from a patient with active HSK and compared responses of this patient to TLR ligands on a subsequent follow up visit where disease was diagnosed to be inactive.

Methods: PBMCs were isolated with Ficoll-Paque Plus density gradient centrifugation. Cells were stimulated with ligands to TLRs 3, 4, 7 and

9 - polyinosinic: polycytidylic acid (poly I:C), lipopolysaccharide (LPS), imiquimod (IMIQ), and CpG A, B, and C, respectively, for 4hrs and overnight. Following stimulation, supernatant was removed for measurements of TNF- α and IL-6, which were determined by enzyme-linked immunosorbent assay (ELISA). mRNA was extracted from stimulated cells using the Trizol method and changes in levels of TLR expression were quantified by qPCR.

Results: The overall qPCR result showed that during the active phase of HSK the patient analysed in this study had higher TLR expression than when disease had resolved. In the active patient, TLR 4 expression was particularly high when stimulated with poly I:C, IMIQ and CpG C. TLR 3 and 7 showed a moderate increase when stimulated with LPS and poly I:C, whereas TLR 9 expression remained low throughout. Differences in IL-6 and TNF- α production were also observed when samples similarly stimulated were analysed.

Conclusions: In the active patient, the increased TLR expression correlates with the increased levels of cytokines TNF- α and IL-6 in the ELISAs. This means that the entire TLR signalling pathway is functioning at a higher level when the patient is actively infected with HSV-1.

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P39

Medical elective research – eyelid asymmetry amongst Malaysians: a study of two racial groups

WC Ngu¹*, CN Chua²

¹University of Dundee, UK; ²University Malaysia Sarawak, Malaysia

BMC Proceedings 2012, **6**(Suppl 4):P39

Introduction: Facial asymmetry is a common condition and only becomes a problem if there is a significant difference between both sides. In the Asian community, the difference between the height and width of the palpebral fissures and the skin creases is usually the most apparent on photographs. There has not been any reports on the prevalence of such differences between the various racial groups in Malaysia. This study looks at the incidence of asymmetry of the palpebral fissure and upper eyelid crease in young Malaysians of Malay and Chinese origins of which form the biggest racial groups in Malaysia. Data obtained from such studies would be useful for reconstructive and aesthetic surgery as well as for counselling patients with dysmorphism.

Methods: Malaysian students between the ages of 18 and 26 were randomly selected at University Malaysia Sarawak. These students comprised of 197 Malays and 198 Chinese. The following parameters of both eyes were obtained with a millimeter ruler: palpebral fissure width (PFW), palpebral fissure height (PFH), intercanthal distance (ICD) and upper eyelid skin crease height (UESC). The presence and absence of skin creases were also recorded. Data collected was analyzed with Microsoft Excel and SPSS.

Results: There is statistical significant difference between the different sexes and races for PFW and PFH but none between the two sides. There is statistical significant difference between the two eyes for UESC. Chinese males have the highest percentage of PFW and PFH asymmetry. Malay males have the highest percentage of UESC asymmetry.

Conclusions: Eyelid asymmetry is common amongst Malaysians. Asymmetry of PFW, PFH and UESC is commoner in males than females. Of the three parameters, asymmetry of UESC is the commonest. PFW and PFH asymmetry is more common in Chinese than Malays but UESC asymmetry is more common in Malays. UESC is almost universally present in Malays whereas in the Chinese there is a significant percentage of subjects with asymmetry of presence of UESC (9.52% in males and 9.46% in females) which gives rise to a more obvious eyelid asymmetry. This data is useful for oculoplastic surgeons who are keen on counselling patients who wish to undergo aesthetic procedures pre and post-operatively.

P40

Abstract withdrawn

BMC Proceedings 2012, **6**(Suppl 4):P40

P41

The management of hyperglycaemia in patients on enteral nutrition in Beaumont Hospital

R Tully*, H Giuden, E Fanning

Royal College of Surgeons in Ireland, Ireland

BMC Proceedings 2012, **6**(Suppl 4):P41

Objectives: To audit current practices in the management of hyperglycaemia in in-patients receiving enteral nutrition in Beaumont Hospital. The aims include:

- To examine the use of specific enteral feeds and their effects on hyperglycaemia
- To examine the medical management of hyperglycaemia

Methods: Setting: A quantitative retrospective audit was carried out over 4 months. The medical charts and dietetic record cards of patients with raised blood glucose levels (defined as ≥ 8 mmol/L) who were receiving enteral nutrition in Beaumont Hospital were collected by the department of Nutrition and Dietetics during the months of May to August.

Patients: Medical charts and dietetic record cards of patients with raised blood glucose (BGLs) levels whilst receiving enteral nutrition during the months of May to August 2011 were included in this audit. Twenty-four patient's charts were eligible for the audit.

Main-outcomes/ measures: Use of diabetes specific feeds versus standard feeds, mean BGL (mmol/L) on each feed.

Results: Of the 24 patients, 21% percent (n=5) of patients were started on a diabetes specific feed as a first line. 25% (n=6) of patients were changed to a diabetes specific feed during the audit. 66%percent (n=16) of patients were on insulin. 42% (n=10) of patients had endocrine team involvement. It was found that 46% (n=11) of patients were on a diabetic specific feed during their admission. Furthermore there was only a slight reduction in average high BGLs for these patients when compared to patients not on diabetic specific feeds.

Conclusions: The aims of this audit were met by examining the use of specific enteral feeds and their effects on hyperglycaemia.

P42

The effect of camel urine on islet morphology and CCL4-induced liver cirrhosis in rat

S Al Neyadi*, R Al Jaber, R Hameed, J Shafarin, E Adeghate

Department of Anatomy, Faculty of Medicine & Health Sciences, United Arab Emirates

BMC Proceedings 2012, **6**(Suppl 4):P42

Introduction: Camel urine has been used for decades as a medication for several ailments in the Middle East. Folklore medicine of the Middle East has shown that, camel urine has a beneficial effect in conditions such as liver cirrhosis.

Methods: Camel urine was given as a drink daily to normal and treated rats for 4 weeks. Glucose tolerance test was performed at the end of the experiment. Immunohistochemistry was used to determine the percentage distribution of insulin and glucagon immunoreactive cells. H & E stain was used to access liver cirrhosis in control and urine-treated rats.

Results: The administration of camel urine significantly increased the number of insulin-positive cells in pancreatic islets. CCL4-treated rats did not have impaired glucose tolerance. CCL4 caused vacuolarization of hepatic cells. Rats treated with camel urine have improved hepatic morphology compared to untreated controls.

Conclusions: The study shows that camel urine may contain bioactive agents capable of preventing CCL4-induced hepatic and pancreatic islet lesions.

P43

Ethnic differences in the association of fat and lean mass with bone mineral density in the Singapore population

AE Teo^{1,2*}, AC Ng³, K Venkataraman⁴, ES Tai⁵, YS Lee^{6,7}, EY Khoo⁵, CM Khoo⁵, SA Sadananthan^{4,6}, SS Velan^{6,8}, V Zagorodnov⁹, YS Chong⁴, P Gluckman⁶, MK Leow^{6,10}

¹Agency for Science, Technology and Research, Singapore; ²University of Cambridge, UK; ³Department of Endocrinology, Singapore General Hospital, Singapore; ⁴Department of Obstetrics and Gynaecology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore; ⁵Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore; ⁶Singapore Institute for Clinical Sciences, Agency for Science, Technology and Research, Singapore; ⁷Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore, Singapore; ⁸Singapore Biomedicine Consortium, Agency for Science, Technology and Research, Singapore; ⁹Department of Computer Engineering, Nanyang Technological University, Singapore; ¹⁰Department of Endocrinology, Tan Tock Seng Hospital, Singapore
BMC Proceedings 2012, **6**(Suppl 4):P43

Introduction: Obesity and osteoporosis are two global health problems with pronounced morbidity and mortality. While body weight appears to mitigate the development of osteoporosis, whether excess body fat promotes or protects against osteoporosis remains a conundrum. The effect of ethnicity on these associations has also been understudied. We hypothesize that (1) fat mass (FM) and lean mass (LM) are independently associated with bone mineral density (BMD) and that (2) ethnic differences exist in the association of FM and LM with BMD among Chinese, Malay and Indian subjects.

Methods: We evaluated 150 overweight male subjects aged ≥ 21 years with body mass index ≥ 25 from 3 ethnic groups (Chinese =73; Malays =41; Indians =36). BMD in five regions (lumbar spine, femoral neck, total hip, ultra-distal radius and one-third radius), FM and LM were measured by dual-energy X-ray absorptiometry (DEXA) using a Hologic Discovery Wi densitometer. Whole abdomen subcutaneous and visceral fat volumes were determined by magnetic resonance imaging (MRI) and a validated segmentation algorithm. Linear regression models were developed to test the association of FM/LM with BMD, and univariate ANOVA was used to test for interaction between ethnicity and FM/LM with BMD.

Results: After adjusting for age and height, LM was positively correlated with BMD in all three ethnicities, but in different skeletal sites: weight-bearing regions (femoral neck, hip) in Chinese, and non-weight-bearing regions (ultra-distal and one-third radius) in Malays and Indians. A negative correlation between FM and BMD was observed consistently in all regions for the Indians, especially at the hip. Visceral fat was negatively correlated with BMD, being most pronounced among Chinese and least for Malays. The interaction models revealed that with each unit of LM, Malays showed a greater increment in BMD than Chinese and Indian subjects at the ultra-distal radius.

Conclusions: Our findings suggest that FM and LM affect BMD in opposite directions, with different physiological reasons modulating this relationship. Substantial ethnic differences were observed in the association of FM and LM with BMD. These results may help explain the variation in hip and wrist fracture rates by ethnicity, and may warrant ethnic-specific clinical recommendations.

P44

The prevalence of metabolic syndrome up to 5 years post-partum in patients with a history of gestational diabetes mellitus

C Crowe^{1*}, E Noctor¹, LA Carmody¹, B Wickham¹, G Avalos¹, G Gaffney², P O'Shea³, F Dunne¹, the ATLANTIC DIP Collaborators

¹Department of Medicine, University Hospital Galway and National University of Ireland, Galway, Ireland; ²Department of Obstetrics and Gynaecology,

University Hospital Galway, Ireland; ³Department of Clinical Biochemistry, University Hospital Galway, Ireland
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Introduction: Metabolic syndrome (MetS) is associated with cardiovascular mortality and increased risk of type 2 diabetes.

Methods: We examine the prevalence of MetS in a cohort of Caucasian women with previous gestational diabetes (GDM) (n=116), and those with normal glucose tolerance (NGT) during pregnancy (n=51). Fasting glucose alone (known DM/pre-diabetes post-partum patients) or 75g OGTT (other patients), lipid profile, insulin and c-peptide were performed. We calculated insulin resistance using the HOMA2-IR computer model.

Results: Conclusions: Metabolic syndrome and insulin resistance are significantly more prevalent in Caucasian patients with GDM progressing to post-partum DM/pre-diabetes than those who do not (p<0.01), suggesting a need to target lifestyle changes in the early post-partum period to help prevent progression to T2DM.

P45

Clinical audit: long-term follow-up of women with genital lichen sclerosis

WC Ngu^{1*}, C Green²

¹Ninewells Hospital & Medical School, University of Dundee, UK; ²Ninewells Hospital & Medical School, UK

BMC Proceedings 2012, **6**(Suppl 4):P45

Introduction: Genital lichen sclerosis (LS) is a chronic inflammatory disease usually managed with intermittent potent topical corticosteroids. 5% of women with untreated vulval LS go on to develop squamous cell carcinoma (SCC).

Current guidelines from the British Association of Dermatologists (BAD) state that patients on topical corticosteroids should be reviewed at least annually by their General Practitioner (GP) [1]. Previous work has shown that many women discharged from secondary to primary care are lost to follow-up [2].

Methoda: An anonymised questionnaire was sent to sixty women with genital LS discharged from our regional vulval clinic more than a year previously. Caldicott Guardian approval was obtained for the study.

Results: Forty-five patients (75%) returned the questionnaire. Seventy one percent of patients had not attended their GP for follow-up. Of the 17 patients who had seen their GP, only 7 had had their vulval area examined. Only 53% of patients self-examined their vulval area. 48% were not aware of the need to report any area of persistent abnormality to their GP. 28 patients were still using topical corticosteroid - 24 of these potent or ultrapotent steroid. 48.9% of all respondents thought a 30g tube of strong steroid should last a year, 26.7% three months, 13.3% one month and 11.1% were unsure. Only 30 patients (66.7%) were aware of the increased risk of skin cancer associated with vulval LS, the remainder being unaware or uncertain.

Conclusions: Our study has highlighted worrying deficiencies in the long-term follow-up of this patient group. We have devised a brief patient information leaflet to be provided to both the patient and their GP at discharge to detail the small increased cancer risk, the need for monthly self-examination, clear instructions on the use of topical corticosteroids and the need for annual review by their GP. Hopefully, this will lead to an increased quality of patient care. We then plan to repeat the audit after an appropriate time interval.

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Table 1(abstrac P44)

	Number with MetS (ATPIII criteria) (%)	Mean HOMA-2IR (+/- SD)	Number with HOMA-2IR>1.7 (%)
DM/pre-diabetes post GDM (n=33)	12 (36%)	1.21(+/-0.77)	18 (55%)
NGT post GDM (n= 83)	11 (13%)	1.93(+/-1.4)	18 (22%)
No history GDM (n=52)	3 (6%)	1.02(+/-0.85)	6 (13%)

P46

A case series of 15 patients with oesophageal cancer in Blantyre, Malawi. Risk factors for oesophageal squamous cell carcinoma in Sub-Saharan Africa

S Granger

University of Liverpool, UK

E-mail: samgranger6@hotmail.com

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Introduction: Oesophageal cancer rates are increasing in Sub-Saharan Africa: the vast majority of cases are oesophageal squamous cell carcinoma (OSCC). Alcohol and tobacco use are significant risk factors for the development of OSCC in developed countries but are less significant in developing countries like Malawi where other factors are implicated.

Aim: To review exposure to risk factors in patients with OSCC in Malawi.

Methods: A case series of 15 patients with oesophageal cancer from Queen Elizabeth Central Hospital, Blantyre, Malawi was collected from Queen Elizabeth Central Hospital endoscopy unit over a 4 week study period. All patients completed a questionnaire on known and potential risk factors for OSCC.

Results: Alcohol and tobacco use were not significant risk factors in female patients; 1(12.5%) female reported 1 pack year history of smoking and none consumed alcohol. Smoking (71.5% of patients) and regular alcohol consumption (57.2% of patients) were common risk factors in men. Exposure to smoke from cooking on wood fires was common in females (87.5%) spending on average 3 hours cooking inside in poorly ventilated kitchens. All patients consumed a daily maize based diet, which has been implicated in the pathogenesis of oesophageal cancer via several mechanisms. Patients reported chronic consumption of boiling hot tea in 86.7% of cases and eating nsima (a local maize staple) when boiling hot in 66.7% of cases. Interestingly, two patients reported a family history of oesophageal cancer in their children.

Conclusions: These findings support the role of alternative risk factors to smoking and alcohol use in the aetiology of OSCC in Malawi, particularly in females. A maize based diet, chronic exposure to smoke from cooking on wood fires and chronic consumption of boiling hot food and drink are all implicated as alternative factors. A multi-centre, case control study examining these risk factors is needed to support these findings so primary preventative measures can be developed against this devastating disease.

P47

Abstract withdrawn

BMC Proceedings 2012, 6(Suppl 4):P47

P48

Trends of organ donation and awareness in Ernakulam, Kerala

K Guleria*, AK Singh, B Kumar, P Agrawal, S Agrawal

Amrita Vishwa Vidyapeetham, India

BMC Proceedings 2012, 6(Suppl 4):P48

Introduction: This study was conducted to get an insight into the knowledge, attitude and practice of the urban and rural populations of Ernakulam, Kerala regarding organ donation for transplantation.

Methods: A total of 500 people above 18 years of age of both genders were selected by convenient sampling in Kaloor and Njarrackal, Ernakulam, Kerala, Southern India. A pre tested semi structured questionnaire was designed about the knowledge, attitude and practice of the interviewees towards organs donation and this was done by door to door interview.

Results: Of the participants, in urban area 81% and in the rural area 85% had knowledge about organ donation. In the urban area 84% and in rural area 95% of the participants were pro-organ donation of that 76% in urban area and 78% in rural area are willing to donate organs for transplantation if required. Age, sex, money and occupation did not influence the attitudes. Out of those who are willing to donate; in urban area 78% and in rural area 81% were willing to donate for philanthropic

reasons and rest if it was needed by their relatives. In urban area 6% and in rural area 10% of the participants had donated or pledged their organs.

Conclusions: According to our study awareness and attitude about organ transplantation seems to be good. Misconception regarding the organs that can be donated by living donors and those by cadaveric donation should be dispelled by creating more awareness regarding this. We can better try to increase their knowledge by educational programs and provide sufficient information. Which can help in leading to improvement of the practice of organ donation.

P49

Investigating the impaired sensorimotor gating in adult mice following foetal exposure to inflammatory mediators

M Tsakok¹*, H Stolp², Z Molnár²

¹University of Oxford, UK; ²Department of Physiology, Anatomy and Genetics, University of Oxford, UK

BMC Proceedings 2012, 6(Suppl 4):P49

Introduction: Maternal infection during pregnancy is a risk factor for certain psychiatric illnesses with a neurodevelopmental component, such as schizophrenia and cerebral palsy. Pathology is thought to result from the exposure of the foetal brain to pro-inflammatory cytokines stimulated during the inflammatory response that influence developmental processes via their actions on neurones and glial cells. In experimental animals, behavioural outcomes relevant to such disorders have been observed in the offspring of infected dams - this study therefore sought to determine whether behavioural change was present in our murine model of immune activation.

Methods: The animal model involved lipopolysaccharide induction of maternal inflammation in pregnant female mice. Sensorimotor gating was assessed using the acoustic startle response - the involuntary contraction of the limbs following an unanticipated, loud, acoustic stimulus. If a weaker pre-stimulus is applied prior to this stimulus, the startle response is attenuated, and this is termed prepulse inhibition. The independent variable was the magnitude of the pre-pulse stimulus, whilst the dependent variable was the percentage of prepulse inhibition. Separate one-way analyses of variance (ANOVAs) were conducted to analyse the effects of treatment and gender on pre-pulse inhibition and post-hoc Bonferroni correction for multiple comparisons was performed with $p < 0.05$ considered significant. Another behavioural test, burrowing activity, was also investigated as a sensitive measure of general behavioural abnormality.

Results: Maternal inflammation induced by lipopolysaccharide (LPS) on gestation day 18 caused significant impaired sensorimotor gating in the adult offspring that is most clearly seen when the animals are subjected to a prepulse of +16dB. However, maternal immune activation had no effect on burrowing activity - a more general aspect of rodent behaviour.

Conclusion: We have made the significant finding of a long-term behavioural change in a mouse model in which very clear deficits in sensorimotor gating were observed. In addition, we suggest that general behaviour is not affected by maternal inflammation. Our model of maternal inflammation corroborates the findings of other groups in a similar field. This work thus paves the way for investigating the long unanswered question of which cellular and molecular mechanisms are involved in the developing brain's response to inflammation.

P50

Predictors of long term outcomes of IgA nephropathy

U Kabir*, T Rahman, D Connaughton, P Conlon

Royal College of Surgeons in Ireland, Ireland

BMC Proceedings 2012, 6(Suppl 4):P50

Introduction: IgA Nephropathy (IgAN) was first described by Berger and Hinglais in 1968. The correlations between clinical as well as histopathological features on presentation and disease progression still remain unclear.

Aim: To identify the key predictors of long term renal outcomes in IgAN.

Methods: Two hundred patients with biopsy proven IgAN were selected and their clinical as well as histopathological data was analysed for progression to End-stage renal disease (ESRD).

Results: 98 patients were used as the selected cohort. 21.5% of patients developed ESRD within 5 years and 28.8% within 10 years. Univariate studies showed that interstitial fibrosis, glomerulosclerosis, presence of fibrocellular crescents, proteinuria (g/24hrs) and raised serum creatinine levels at the time of biopsy were significant. (P value of <0.001 and 95% CI considered significant.) In the multifactorial analysis interstitial fibrosis and raised serum creatinine, lost their significance. (P value of <0.05 and 95% CI considered significant.)

Conclusions: Combination of proteinuria, glomerulosclerosis and fibrocellular crescents may contribute to poor renal outcomes in patients with IgAN. Interstitial fibrosis and raised serum creatinine levels may have solitary effects on disease progression as well.

P51

Willingness and attitudes of the general public towards the involvement of medical students in their healthcare

H Shereef¹, M Abu Jubain, H Alobaidi, S Bholah, R Koghar, F Kanani
University of Birmingham, UK
BMC Proceedings 2012, 6(Suppl 4):P51

Introduction: To determine if a correlation exists between the level of invasiveness of a clinical procedure and patient willingness for the procedure to be performed by medical students, and how this is affected by patient demographics and previous encounter(s). Previous research in the area has been on a small scale and have only looked at the passive involvement of medical students (i.e. in an observational capacity).

Methods: We used a standardised questionnaire to conduct a cross sectional street survey in various areas of Birmingham, UK. Clinical procedures were categorised into two groups of increasing levels of invasiveness; history taking/examinations (comprising history taking, non-invasive and invasive examinations) and other clinical procedures (comprising measuring blood pressure, venepuncture and tube insertion (intubation)). Responders were asked to rank their willingness for medical students to perform each procedure.

Results: We received a total of 293 responses. In both the history taking/examinations and other clinical procedures groups, willingness decreased with level of invasiveness, although the trend was less apparent in Whites and those aged 65+. Rates of willingness were significantly higher in females, the two older age groups (41-64, 65+) and Whites for history-taking; Whites and those aged 65+ for non-invasive examinations; the two older age groups (41-64, 65+) and Whites for invasive examinations; females, the two older age groups (41-64, 65+) and Whites for measuring blood pressure; and the two older age groups (41-64, 65+) and those who had previous encounter(s) for venepuncture. No significant associations were found for tube insertion (intubation).

Conclusions: People in the community generally report that they are more willing to allow medical students to perform non-invasive procedures compared to more invasive procedures. This may limit opportunities for medical students to attain clinical competencies. An effective method of identifying more willing patients is needed, to benefit students while ensuring patient satisfaction in clinical settings.

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Re-engineering an American emergency department with Team Triage - adapting to increasing patient volume in emergency services

L Haruno^{1*}, O Geling², J Kakuda³
¹University of Notre Dame, USA/Hawaii Pacific Health, USA; ²University of Hawaii/Hawaii Pacific Health, USA; ³Pali Momi Medical Center/Hawaii Pacific Health, USA

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Introduction: Overcrowding in U.S. emergency departments (ED) is a critical issue. In a privatized health care system, patients with limited access to insurance benefits (as influenced by challenging socio-economic conditions) often utilize the ED as crucial point of access to care. Non-acute patients seeking primary care in ED facilities can congest operations and contribute to overcrowding. In Hawaii's second busiest ED (Hospital 1), a non-traditional method of emergency triage - team triage - has been implemented to improve patient throughput and satisfaction, and mitigate

effects of overcrowding. This study defines trends and compares two prominent and nationally recognized EDs (Hospital 1 and Hospital 2) in the state of Hawaii - employing team and traditional triage respectively, to examine changes in patient population, demographics, acuteness, and departmental throughput measures.

Methods: Retrospective data review from 180,000+ patient records (112,000+ from Hospital 1, and 67,000+ from Hospital 2) was obtained from July 2007 - June 2010 through the electronic medical records system, EPIC. Data included patient demographics, mode of arrival, length of stay (LOS), door-to-doctor time, insurance type, and patient satisfaction. Statistical analysis was completed with JMP and SPSS statistical software.

Results: Patient volume increased over the 36 month time period at both hospitals as did patient satisfaction, particularly after the implementation of team triage at Hospital 1. The door-to-doctor time decreased for outpatients at both hospitals as well, but the overall LOS for outpatients remained largely the same. The percentage of governmentally insured (as opposed to privately insured) patients increased, but surrogate measures of acuteness - ambulance arrivals and admission rates - declined amongst this population.

Conclusions: Trends in satisfaction and door-to-doctor time are not exclusive to a team triage environment. Team triage potentially reduces door-to-doctor time, but has minimal impact on overall LOS. There exists a disparity in patient population and relative acuity that can contribute to overcrowding and patient throughput. Ultimately inpatient resources - not method of triage or even ED throughput - may be the biggest determining factor in improving overcrowding in EDs outside of health policy changes and reform.

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An exploration of the attitudes and beliefs of rural women towards skilled birth attendants in Nepal

S Forrest
University of Dundee, UK
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Introduction: An exploration of the attitudes and beliefs of rural women towards skilled birth attendants in Nepal. This research project aims to identify factors that contribute to rural women's decision to use SBAs during childbirth, the factors surrounding that decision and the barriers identified so future policy makers can make informed, critical decisions.

Methods: Qualitative research was considered most appropriate to understand the attitudes and beliefs of rural women. Semi-structured, one to one interviews were conducted on 12 participants; 4 pregnant women/delivered within 1 year, 4 SBAs and 4 FCHVs/TBAs to gauge a variety of opinions. A purposive approach was used as well as convenience sampling and snowball sampling from the district hospital, various methods of recruitment allowed triangulation and improved validity of results. The same female translator was used throughout to improve reliability of results. Analysis involved using a thematic coding system. Limitations of research resulted from financial and time constraints, small sample size, language barrier and potential for bias.

Results: The findings were identified from themes emerging from the research and then categorised into subthemes. The Broad general themes identified were:

- Factors encouraging the use of SBAs
- Factors discouraging the use of SBAs
- The benefits/disadvantages of home delivery
- The socio-cultural factors that influence women's decision

Conclusions: The results supported some of current research that has been done in literature to suggest the barriers rural women face, however findings of this research report also illustrate the specific challenges government face and the fundamental flaws that need to be addressed. Low levels of female education plays a key role in underutilisation of SBA services through lack of knowledge and awareness, women's poor social status and power of decision making leading to deprived opportunities. Strategies to improve education, financial/human resource problems and transport were then critically examined.

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The role of NGOs in rural Vietnam: a case study and critique

Y Barzin

Brighton & Sussex Medical School, UK

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Introduction: There is on-going debate about the merits of programmes supported by international aid, with critics arguing that many programmes are unsustainable, that they follow international agendas and lead to fragmentation of national health systems. The debate focuses on large providing for patients' health needs and the impact of the programme within the public health system.

Vietnam has good health status compared to countries with similar economies, which can largely be attributed to its focus on primary care and the extensive coverage by commune health centres. Yet, rural populations have limited access to quality services. Vietnam faces a double burden of chronic and communicable diseases.

Methods: An ethnographic study was conducted on a charity's medical programme, which provides free temporary clinics for rural populations in central Vietnam. Data from medical notes was collected and interviews with patients and professionals were conducted.

Results: It is likely that a significant proportion of patients were covered by Vietnam's social insurance scheme; however high costs and poor resources at public clinics limit access to quality care. The majority of diagnoses in clinics were for chronic problems, correlating with increasing age, which the programme is not designed to manage. The benefits of consultations were further limited by poor patient health literacy and lack of time and resources. The charity works closely with local authorities and programmes are developed at their request. The clinics do not focus on specific diseases and reflect the horizontal approach of public clinics. However, the clinics duplicate existing services and do not contribute to development of the public health system.

Conclusions: Despite its limitations, the programme can be beneficial to the local communities. Of importance, the programme is no seen to undermine the public health system. However, the programme cannot meet the needs of rural communities as the majority suffer from chronic illness. This study highlights the need to consider programme-specific factors within the debate on international aid.

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Abstract withdrawn

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Patients who walk out from our Emergency Departments; is alcohol an issue?

B O'Callaghan*, S Ogorman

National University of Ireland, Galway, Ireland

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Introduction: Patients who walk out of the Emergency Department having not waited for treatment (DNW) or against medical advice (LAMA) represent an at risk group in the patient population. Previous literature has attempted to profile these patients under various parameters and to identify the factors which influence their decision to leave. Little to no research has been carried out on the relationship between alcohol and walkout patients. This study aims to profile these patients and examine this specific issue in detail.

Methods: Patients who Did Not Wait and Left Against Medical Advice over a 1 month period at ED in Letterkenny General Hospital were identified and their charts isolated for review. A proforma sheet was designed and various parameters were recorded from their charts. Patients were followed up by telephone with the aim of obtaining the reasons why they left and to require about any residual medical complaints. Data was recorded using OfficeExcel2007 and analysed using SPSS18.0.

Results: During the 4 weeks study we found a walkout rate of 2.34%. Single unemployed males in the 18-30 year age group represented the most populous group of walkout patients. 53% of the walkouts had alcohol related presentations such as chronic abuse and/or intoxication. Of these 29% involved violence or an altercation and some 52% had a documented history of psychiatric illness. Some trends were in line with previous literature such as Triage Category and Time of Day. However patient population in the department at the time of admission showed no relationship to the likelihood of walking out. On follow up no patient was noted to have come to subsequent harm.

Conclusions: This study demonstrates that the reasons why patients walk out may be patient centred rather than based on environmental factors such as overcrowding or staffing issues. This contrasts greatly with previously published literature on this topic. From our results we get a picture of the clinical and social characteristics of the patient who is likely to walkout. In Irish Emergency Departments alcohol is a likely element of the history and presentation of many of our walkouts.

Cite abstracts in this supplement using the relevant abstract number, e.g.: O'Callaghan and Ogorman: Patients who walk out from our Emergency Departments; is alcohol an issue?. BMC Proceedings 2012, 6 (Suppl 4):P56