



**GRADUATE
ENTRY
MEDICAL
SCHOOL**
UNIVERSITY OF LIMERICK
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University College Cork
School of Medicine



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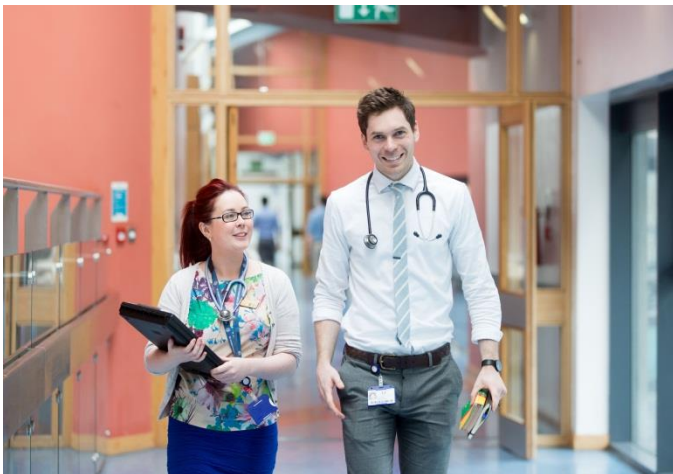
The Graduate Entry Medical School at the University of Limerick

Is pleased to host the
**2nd Annual Atlantic Corridor Medical
Student Research Conference**

Wednesday 11th November 2015

GEMS Building
University of Limerick

RSVP to GEMSResearch@ul.ie



Atlantic Corridor 2015 Programme

Wednesday 11th November 2015

0930-1000	Registration & refreshments	Room: GEMS Foyer
1000-1015	Opening Address by Professor Michael Larvin, Head of the Graduate Entry Medical School, University of Limerick	Room: GEMS0-016
1015-1030	1. Oral Presentation – Mr James Hearn, UL GEMS	Room: GEMS0-016
1030-1045	2. Oral Presentation – Ms Aine English, NUIG	Room: GEMS0-016
1045-1100	3. Oral Presentation – Ms Lorraine Scanlon, UCC	Room: GEMS0-016
1100-1115	4. Oral Presentation – Mr David Lynch, UL GEMS	Room: GEMS0-016
1115-1130	Coffee/Tea Break	Room: GEMS Foyer
1130-1145	5. Oral Presentation – Mr William Hutch, UCC	Room: GEMS0-016
1145-1200	6. Oral Presentation – Mr Gerard Browne, NUIG	Room: GEMS0-016
1200-1215	7. Oral Presentation – Mr Ronan Callanan, UL GEMS	Room: GEMS0-016
1215-1230	8. Oral Presentation – Mr Chin Hong Ngai, UCC	Room: GEMS0-016
1230-1330	Poster Session & Lunch	Room: GEMS0-028
1330-1400	GEMS SSM in Humanities Awards Ceremony	Room: GEMS0-016
1400-1445	Plenary Address by Professor Colum Dunne, Director of Research, Graduate Entry Medical School, University of Limerick	Room: GEMS0-016
1445-1500	9. Oral Presentation – Mr David O'Reilly, NUIG	Room: GEMS0-016
1500-1515	10. Oral Presentation – Ms Marion Murphy, UCC	Room: GEMS0-016
1515-1530	11. Oral Presentation – Ms Clare Miller, UL GEMS	Room: GEMS0-016
1530-1545	12. Oral Presentation – Ms Aisling McNamara, NUIG	Room: GEMS0-016
1545-1600	Award Committee Convenes	
1600-1615	Prize-giving and Closing Address by Professor Deirdre McGrath, Director of Education, Graduate Entry Medical School, University of Limerick	Room: GEMS0-016

Oral Presentation Chairs

1015-1115

Prof Kieran McDermott UL

Dr Roisin Dwyer NUIG

1130-1230

Dr Eileen Duggan UCC

Prof Deirdre McGrath UL

1445-1545

Prof Michael Larvin UL

Dr Roisin Dwyer NUIG



NUI Galway
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University College Cork
School of Medicine

Oral Presentation Abstracts – In Order of Appearance

1) Presenting Author Information

Name: **James Hearn**

University: **University of Limerick**

Presentation Title

Congenital Anomalies in a cohort of infants born using Assisted Reproductive Technology (ART); A Review from 1996-2010 in the Cork And Kerry region as part of the European Surveillance Of Congenital Anomalies (Eurocat) Network.

Co-authors

S Meaney¹ MT O'Mahony², K O' Donoghue³

1. National Perinatal Epidemiology Centre, University College Cork, Ireland. 2. Cork & Kerry Congenital Anomaly Register: EUROCAT Registry 49, Department of Public Health, HSE South (Cork & Kerry), Cork, Ireland; 3. Department of Obstetrics and Gynaecology, University College Cork, Ireland.

The number of infants born via ART has grown annually, however rates of congenital anomalies in ART babies are often higher than those conceived naturally. With the increasing prominence of ART, it is important to examine the associated rates of congenital anomalies, which may have implications for the management of subfertility.

The purpose of this study was to provide a cohesive longitudinal analysis of reported congenital anomaly data, focusing on the epidemiological information and potential maternal risk factors as related to the various forms of ART.

A retrospective cohort study was undertaken on infants with a congenital anomaly born with or without ART between 1996 and 2010 in the Cork/Kerry region, identified using the EUROCAT database.

58 ART and 2682 naturally conceived babies were born with a diagnosed congenital anomaly. Mothers who gave birth via ART were significantly older (36.03 ± 5.928 vs 31.12 ± 4.176 years, $p=0.001$), and gave births to infants born both at an earlier gestational age (36.64 ± 3.256 vs 38.12 ± 3.968 weeks, $p=0.015$) and at a lighter birth weight (2795.34 ± 1013.029 vs 3143.64 ± 971.85 grams, $p=0.032$). Rates of trisomy 13 were also significantly higher in the ART group (5.2% vs 1.3%, $p=0.015$).

Mothers who gave birth to ART babies were significantly older and gave birth to babies at an earlier gestational age with a lower birth rate than those conceived naturally, with a higher risk of trisomy 13. Continuing research with larger sample sizes is needed to explore additional significance.

2) Presenting Author Information

Name: Aine English

University: National University of Ireland Galway

Presentation Title

Contribution of Food to Human Infection with Antibiotic Resistant Bacteria.

Co-authors

B Mahon, K Staunton¹, S Kavanagh¹, V Buckley¹, M Cormican¹, D Morris.¹

1. National University of Ireland Galway.

Increasing quantities of antibiotics are used in human and veterinary medicine, and agriculture globally. Antibiotic resistance is seen as a major public health issue (1). The role that food plays in the spread of antibiotic resistant bacteria is largely unknown. The aim of this study was to investigate this, by comparing ESBL producing *Escherichia coli* isolated from food and clinical specimens collected within the same time period.

The collection examined comprised 283 isolates of *E. coli* (140 from clinical specimens and 143 isolates collected from retail meats in Ireland). All isolates were collected between Nov. 2013 and Sept. 2014. All isolates were screened for susceptibility to 15 antibiotics in accordance with EUCAST criteria. Extended spectrum beta-lactamase (ESBL)-producers were screened for the presence of *bla*CTX-M, *bla*TEM, *bla*SHV and *bla*OXA by PCR (2). To determine relatedness, isolates were phylogrouped by PCR and analysed by pulsed field gel electrophoresis (PFGE) using *Xba*I in accordance with PulseNet protocols.

Both collections exhibited high levels of multi-drug resistance (MDR), defined as resistant to ≥ 3 antibiotic classes (3). One hundred and forty (97.9%) and 136 (97.1%) of food and clinical collections respectively were MDR. Thirty six food isolates harboured ≥ 2 resistance genes. Of the clinical isolates, 114 had ≥ 2 resistance genes. Significant similarity was found within the clinical collections. Little or no likeness was found within the food collection. Typing analyses revealed very little similarity between the two collections. Findings suggest food is not a major contributor to human infection with antibiotic resistant bacteria.

1. WHO, "Antimicrobial Resistance – Global report on surveillance" (2014)
2. Clermont, O, Christenson, J.K., Denamur, and Gordon, D.M (2012) 'The Clermont *Escherichia coli* phylo-typing method revisited: improvement of specificity and detection of new phylo-groups', *Environmental Microbiology Reports*, pp 1758-2229.
3. A.-P. Magiorakos¹, A. Srinivasan², R. B. Carey et al. (2011) 'Multidrug-resistant, extensively drug-resistant and pandrug-resistant bacteria: an international expert proposal for interim standard definitions for acquired resistance'. *European Society of Clinical Microbiology and Infectious Diseases, CMI*, 18, 268–281

3) Presenting Author Information

Name: Lorraine Scanlon

University: University College Cork

Presentation Title

Type 2 Diabetes Mellitus: Patient Characteristics at Initial Diagnosis.

Co-authors

K Murphy¹, C Moran², C Bradley¹, J Moran¹.

1Dept. General Practice, & 2Department of Medicine, UCC, Cork.

The incidence and prevalence Type 2 Diabetes Mellitus (T2DM) is increasing. Diabetes in General Practice (DiGP) is an educational forum for General Practices aiming to improve their care of patients with T2DM. We investigated the characteristics of T2DM patients at initial diagnosis and whether patients cared for in DiGP practices had better glycaemic control (lower HbA1c) at the time of diagnosis than patients attending non-DiGP practices.

22 General Practices were recruited over a 6 week period, 15 DiGP practices and 7 non-DiGP practices. A random selection of T2DM patients (N=460) were selected and their records were analysed. Demographics, smoking status, BMI (Body Mass Index) and HbA1c values at the time of initial diagnosis were recorded. Ethical approval was granted by Clinical Research Ethics Committee of the Cork Teaching Hospitals and the lead author received a UCC SURE award.

Smoking status was recorded for 41% of patients, 38% current or ex-smokers and 62% non-smokers. BMI was recorded in 47% of patients, 10% "underweight" or "normal", 28% "overweight" and 63% "obese". There was a significant negative correlation between HbA1c and patient age ($r=-0.203$, $p=0.00$). There was a significant correlation between HbA1c and positive smoking status ($r=0.204$, $p=0.005$). There was no significant correlation between HbA1c at diagnosis and either BMI or DiGP membership.

HbA1c level at initial diagnosis is higher in younger adults diagnosed with T2DM. Positive smoking status is associated with higher HbA1c level, highlighting a need for increased suspicion in these groups. Membership of DiGP did not lead to earlier diagnosis of T2DM.

4) Presenting Author Information

Name: **David Lynch**

University: **University of Limerick**

Presentation Title

Management of a positive sentinel lymph node at University Hospital Limerick – Oncological patterns of care.

Co-authors

C Baban², L Coate³, A Lal², S Tormey², A Merrigan², A Hannigan¹, B Woulfe³, L Walsh⁴

University of Limerick Graduate Entry Medical School¹, Department of Surgery UHL², Mid-Western Cancer Centre UHL³ Department Radiation Oncology UHL⁴

Introduction: To determine how patients with early stage breast cancer and a positive sentinel lymph node (SLN+ve) are further managed at our institution (surgically, systemically, radiotherapeutically) and to determine the factors which influence the approach taken, comparing it to ACOSOG Z0011.

Methods: Data was collected on all SLN biopsy procedures conducted between Jan 2010 – July 2014 (n=375) and validated with surgery lists, individual pathology reports, patient charts and electronic records. Graph pad (Chi squared, Fisher's exact test, Chi squared for trend and independence) was used for data analysis.

Results: 101 patients had SLN+ve - 62(61%) underwent axillary lymph node dissection (ALND), 39 (39%) had no further axillary surgery (SLNB alone). Factors which impacted the decision to proceed with ALND were a macrometastatically SLN+ve (p=0.005), number of SLN+ve (p=0.0029), grade and receptor status (p=0.01). Chemotherapy was given more frequently in the ALND group (p=0.003). In contrast to ACOSOG Z0011, locoregional radiation was given more frequently in both groups, particularly when ALND had been performed (p=0.016).

Conclusions: The surgical impact of ACOSOG Z0011 is evident at our institution with 39% of patients who previously would have been considered for ALND receiving SLNB only. Its impact on selection of adjuvant therapy (chemo & radiotherapy) is not apparent, with patients receiving less chemo but more extensive locoregional radiation when compared with the SLNB group of Z0011. Clinical guidelines being developed by the Irish National Cancer Control Programme have identified this often challenging issue and will be welcome in standardising practice.

5) Presenting Author Information

Name: **William Hutch**

University: **University College Cork**

Presentation Title

Neuromonitoring in Neonates: The simultaneous use of EEG and NIRS in the NICU.

Co-authors

E Dempsey¹, J O' Toole¹, R Lloyd¹, M Kenosi¹, MM Wall¹, GB Boylan¹.

1. INFANT, UCC, Cork

Introduction: Infants that are born prematurely (<32 weeks gestation) are at risk of adverse outcome. With advances in brain monitoring techniques such as NIRS and EEG, it is now possible to monitor (cerebral oxygenation (rScO₂) and brainwave activity respectively) in such a neonatal population.

Aims: To determine in infants < 32 weeks gestation; 1. normative values of cerebral oxygenation (rScO₂) using NIRS. 2. to examine the relationship between rScO₂ and brain activity using EEG.

Methods: Ethical approval was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals. This is a prospective cohort study. Preterm infants < 32 weeks were monitored using NIRS and EEG. rSO₂ recordings were taken in the first 48 hours of life. A composite measure of death and any abnormal cranial ultrasound finding was used to define adverse outcome.

Results: For NIRS 117 preterm infants were evaluated. 77 preterm infants had a normal outcome. Preterms with a normal outcome spent a higher percentage of time >85% (15.2% versus 6.4%, p =0.2). When infants with severe ultrasound abnormalities were evaluated the percentage of time > 85% was 15.2% versus 2%, p=0.22. These NIRS findings are currently being analysed in relation to EEG.

Conclusions: We have established the first normative values of cerebral oxygenation in preterm infants less than 32 weeks. NIRS & EEG has a role to play in monitoring preterm infants.

6) Presenting Author Information

Name: **Gerard Browne**

University: **National University of Ireland Galway**

Presentation Title

The Oxysterol, 27-Hydroxycholesterol (HC), induces Oestrogen receptor mediated proliferation and upregulates steroidogenesis in adrenocortical cancer.

Co-authors

SJ Lawless¹, N Mobarki¹, C Cummins¹, PM O'Shea, MC Dennedy^{1,2,4}

¹Discipline of Pharmacology and Therapeutics, NUI Galway, Galway. ²School of Medicine, NUI Galway, Galway. ³Department of Clinical Biochemistry, University Hospital Galway, Galway. ⁴Department of Endocrinology, University Hospital Galway, Galway.

Introduction: Oxysterols are steroid derivatives which act through nuclear receptors.1 In oncogenesis, they stimulate growth and metastases in breast cancer through an oestrogen receptor (ER) and liver-X-receptor (LXR)-dependent mechanism.2 Adrenocortical carcinoma (ACC) is an aggressive malignancy with limited treatment. Many factors for oncogenesis and progression have been suggested.3 ER- α induces ACC proliferation.

Methods: Expression of ER- α , LXR- α , steroidogenic enzymes, oxysterol pathway enzymes and known products of oxysterol ligand binding in H295R cells was shown by RT-PCR. H295R cells and ER- α + breast MCF-7 cells were treated with 27-HC, T0901317 (LXR- α agonist), oestradiol (E2) with and without hydroxytamoxifen (OHT). Proliferation was analysed by cell counting, cell cycle analysis and crystal violet staining. Expression of steroidogenic enzymes pre- and post-treatment was investigated by RT-PCR. Results: qRT-PCR showed upregulation of steroidogenic enzymes in response to 27-HC and T0901317. E2 and 27-HC induced proliferation in H295R and MCF-7 cells. Surprisingly OHT potentiated E2 and 27-HC-induced H295R cell proliferation, while inhibiting proliferation in MCF-7 cells.

Conclusions: Our novel finding shows that oxysterols induce proliferation and steroidogenesis in ACC cells, implicating them in progression of the primary cancer and associated paraneoplastic endocrine syndromes. We propose that targeting oxysterol metabolism presents new therapeutic approaches for ACC.

1. Olkkonen VM. Oxysterols and Their Cellular Effectors. *Biomolecules*. 2012 Dec;2(4):76–103.
2. Nelson, ER. 27-Hydroxycholesterol Links Hypercholesterolemia and Breast Cancer Pathophysiology. *Science*. 2013 Nov 28;342(6162):1094–8.

7) Presenting Author Information

Name: Ronan Callanan

University: University of Limerick

Presentation Title

Are patients with Sepsis getting the right antibiotics?

Co-authors

D Ryan D^{2,3}, L Hickey¹, N Cummins², S Watkins³

¹Graduate Entry Medical School, University of Limerick, ²Centre for Prehospital Research, Graduate Entry Medical School, University of Limerick & ³Retrieval, Emergency and Disaster Medicine Research and Development Unit (REDSPoT), Emergency Department, University Hospital Limerick, Dooradoyle, Limerick.

Sepsis is a common medical emergency that requires early appropriate antimicrobial therapy. This study aims to ascertain the suitability of the empirical antibiotic treatment of sepsis in an Emergency Department. This will be achieved by analysing the sensitivity of the antibiotic provided to the microorganism identified on culture & the subsequent effect on patient outcome.

A retrospective cohort study of patients with a diagnosis of sepsis between October 2014 and March 2015 was conducted. Demographic information, treatment times, antibiotics prescribed, culture results, antibiotic sensitivities and patient outcome were recorded. Ethical approval was afforded by the HSE Mid-Western Regional Hospital Research Ethics Committee.

178 patient records were reviewed with 98 eligible participants identified. Of the positive cultures (n = 38), there were 14 sensitive and 24 not-sensitive to initial antibiotic treatment. Of the non-sensitive group, 1 patient received antibiotics as per local guidelines. Patients sensitive to initial antibiotic treatment had a median hospital stay of seven days (IQR: 5-11.5) and the not-sensitive group stayed a median of eight days (IQR: 5-22). Of the culture positive patients who died (n = 10), 70% were not sensitive to the empirical antibiotic therapy.

This study demonstrates that the majority of the empirical antibiotic treatment provided was not appropriate for the microorganisms identified on culture in this ED. Non – sensitive treatment demonstrated a more negative effect on patient outcome in this instance.

8) Presenting Author Information

Name: Chin Hong Ngai

University: University College Cork

Presentation Title

Diabetic foot disease in diabetic patients with end stage kidney disease (ESKD) on haemodialysis compared to diabetic patients with chronic kidney disease (CKD.)

Co-authors

AA Abdalla¹, B Griffin¹

¹Department of Nephrology, Cork University Hospital, Wilton, Cork, Ireland

Background: Diabetic foot disease is one of the most common complications in diabetic patients throughout the world causing major economic burden for patients and the society (1). There is a higher incidence of diabetic foot disease in patients with concurrent renal disease and the outcomes for these patients are generally poorer. Dialysis therapy was reported as one of the risk factors associated with frequent foot diseases in diabetic patients with renal disease (2). However, it remains unclear that whether the main cause of frequent diabetic foot disease is due to stage of kidney disease or the dialysis treatment itself is pathogenic.

Aim: The aim of this study is to examine and compare the severity of diabetic foot disease in diabetic patients with end stage kidney disease on haemodialysis compared to diabetic patients with chronic kidney disease.

Method: A convenience sample of diabetic patients with kidney disease was recruited in Cork University Hospital Haemodialysis Centre and Diabetes Outpatient Department in 2015. The following data was collected: demographics, staging of CKD and relevant past medical history. Recruited participants received a complete diabetic foot check which includes peripheral neuropathy check, peripheral vascular disease check and Doppler ultrasound on both legs. Diabetic screening tool approved by Health Service Executive (Ireland) was used as a guide for diabetic foot check. Analysis was performed using SPSS Statistics version 20.0.

Results: The total number of patients recruited was 78. The mean age was 69 years (SD=8.47). 67% (n=52) were male. 51% (n=40) were on dialysis and the median length on dialysis was 3.76 years (range 1-13 years). 12.5% patients on haemodialysis had an amputation and 5.1% patients with CKD had an amputation. 27.5% patients on haemodialysis suffered from at least 1 foot ulcer (81.2% had infection) in their lifetime while only 12.8% patients with CKD had foot ulcer (60% had infection). 57.5% patients on haemodialysis were diagnosed with diabetic neuropathy while only 30.8% patients with CKD had diabetic neuropathy. The overall diabetic foot score was higher in the haemodialysis group (75.55) compared to CKD group (52.4) showed that haemodialysis group had worse diabetic foot disease compared to the CKD group.

Conclusions: Higher overall diabetic foot score in the haemodialysis group showed that diabetic patients on haemodialysis had worse diabetic foot disease in terms of diabetic peripheral neuropathy and peripheral vascular disease. These patients are at a higher risk of experiencing complications from diabetic foot disease compared to the CKD group. More studies are needed to explore the factors causing diabetic foot disease in diabetic patients on haemodialysis.

9) Presenting Author Information

Name: David O'Reilly

University: National University of Ireland Galway

Presentation Title

Free water elimination and mapping from diffusion tensor imaging (DTI) in chronic schizophrenia.

Co-authors

N Colgan¹, L Holleran², M Ahmed², H Anderson-Schmidt¹, J McFarland¹, P McCarthy³, G Barker⁴, DM Cannon², C McDonald¹

Disciplines of 1)Psychiatry, 2)Anatomy & 3)Radiology, The Centre for Neuroimaging & Cognitive Genomics (NICOG), College of Medicine, Nursing & Health Sciences, National University of Ireland Galway, Galway, Ireland. 4. King's College London, Centre for Neuroimaging Sciences, Department of Neuroimaging, Institute of Psychiatry, London, UK.

DTI uses magnetic resonance imaging to provide an estimation of white matter integrity. Free water modeling eliminates artefactual effects of free water, and we present the second application of free water mapping in chronic schizophrenic patients.

Diffusion weighted data(64 direction,b=1300 s/mm²,Siemens 1.5T)was acquired for 19 participants(14M,5F,Mean Age=36.69±9.69)with chronic schizophrenia and 19 controls(14M,5F,Mean Age=38.21±10.29). Ethical approval was granted from the local university and hospital ethics approval committees.

The schizophrenic group showed widespread increased cerebral free water compared to healthy controls, overlapping with areas of decreased FA (P<0.05). Focal areas (including the genu and splenium of the corpus callosum) demonstrated decreased FA in the presence of normal free water.

This study provides evidence for a widespread neuroinflammatory response in addition to white matter degeneration amongst chronic schizophrenic patients.

10) Presenting Author Information

Name: Marion Murphy

University: University College Cork

Presentation Title

Preventive health counselling during antenatal care using the Pregnancy Risk Assessment Monitoring System (PRAMS) in Ireland.

Co-authors

SM McHugh¹, LM O'Keeffe², P Corcoran², RA Greene², PM Kearney¹

¹Department of Epidemiology & Public Health, UCC ²National Perinatal Epidemiology Centre, CUMH, Cork

Antenatal care (ANC) provides an ideal opportunity to encourage behaviour change (1). Little is known about preventive health counselling provided during ANC. The Pregnancy Risk Assessment Monitoring System (PRAMS) in Ireland is a modified version of CDC methodology that monitors maternal behaviours and experiences that occur before, during and after pregnancy (2). The aim of this research was to assess the prevalence of preventive health counselling during ANC in pregnancy.

Cross-sectional analysis of the PRAMS study was conducted at Cork University Maternity Hospital; a sampling frame of ~2,400 was used to sample 1,200 women. Outcome measures included self-reporting of preventive health counselling during ANC (smoking, alcohol, breastfeeding and appropriate weight gain). Women were defined as in high need of counselling if reported ≥ 1 of the following: cigarette/alcohol use, BMI > 25 kg/m² and intent to bottle-feed. Data analyses were conducted using STATA v12.

Response rate was 61% (n=718); mean age was 32 years. Highest reported counselling rates were on breast-feeding (84.8%, n=592) and folic acid (67.7%, n=483); rates were lower regarding smoking (47.6%, n=333), alcohol (48.5%, n=338) and appropriate weight gain (31.5%, n=219). Women with a high need for counselling on breast-feeding (27.2%, n=195), alcohol consumption (75.9%, n=545) and appropriate weight gain (29.2%, n=202) were not significantly more likely to receive counselling.

The prevalence of preventive health counselling is lower than expected; improved delivery methods during pregnancy may be required.

1. Phelan S. Am J Obstet Gynecol. 2010;202:135.e1 - e8.

2. O'Keeffe LM, Kearney PM, Greene RA. Maternal and child health journal. 2014:1-7.

11) Presenting Author Information

Name: Clare Miller

University: University of Limerick

Presentation Title

Risk of Acute Coronary Events and Coronary Interventions for Overweight and Obese patients versus normal weight patients undergoing Dialysis; A National Study.

Co-authors

JP Ferguson¹, M Elsayed¹, MU Sharif¹, AG Stack¹

1 Graduate Entry Medical School, University of Limerick, Ireland.

Introduction: Although elevated body mass index (BMI) is associated with increased risk of cardiovascular events in the general population, the relationship of BMI with major coronary events is largely unexplored in dialysis.

Methods: We tested this hypothesis in a national cohort of 1,028,353 incident US dialysis patients between 5/1995 to 12/2008. Patients were classified by BMI (kg/m²) categories according to WHO criteria of underweight (< 18.5, normal (18.5-25 Kg/m²), overweight (25-30 Kg/m²), Class 1 (30-35 Kg/m²), class 2 (35-40 Kg/m²), and class 3 obesity (> 40 Kg/m²). Hospitalizations attributed to first myocardial infarction (MI) [ICD 9 codes; 410] and major coronary interventions following first MI were obtained from the US Renal Data System. Multivariable Cox regression compared the hazard ratios [HR] of MI across BMI categories and the subsequent likelihood of receiving a coronary intervention.

Results: In multivariable analysis, the adjusted HR of MI was highest for underweight patients and lowest for morbidly obese patients, decreasing significantly with increasing BMI category (HR and 95% CI of: 1.04 (1.00-1.08), 1.00 (referent), 0.96 (0.94-0.98), 0.90 (0.87-0.92), 0.85 (0.82-0.88) and 0.84 (0.81-0.88) respectively for each increasing BMI category. This pattern was accentuated in Blacks. Furthermore, overweight patients were significantly more likely to receive a coronary intervention post-MI compared to normal weight individuals but this benefit did not extend to morbidly obese or underweight patients.

Conclusions: In contrast to the general population, higher BMI is associated with lower risk of major coronary events in US dialysis patients suggesting a protective effect. Furthermore, access to coronary interventions following a major coronary event is not equal across BMI categories with extremes of BMI experiencing reduced rates of major coronary interventions.

^A Coronary Interventions: Percutaneous coronary intervention, Angioplasty, Coronary artery bypass graft

12) Presenting Author Information

Name: Aisling McNamara

University: National University of Ireland Galway

Presentation Title

Economic Impact of Trastuzumab Treatment in a West of Ireland Primary Care Facility: A Cost-Effective Analysis.

Co-authors

A McGuire, D Joyce, T McVeigh, C Curran, KJ Sweeney, R McLaughlin, C Malone, JAL Brown, C O'Neill, Kerin, MJ.

Lambe Institute, NUI Galway.

Introduction: Our aim was to determine the changing costs in breast cancer treatments since the introduction of Trastuzumab. Specifically for the two HER2-positive subtypes Luminal B (ER/PR +ve, HER2 +ve) and HER2 over-expressing (ER/PR –ve, HER2 +ve), in both the adjuvant and neoadjuvant setting.

Methods: A database of 468 HER2-positive patients, treated at a tertiary referral unit from 1992-2014, was analysed. Demographics, survival and individual treatment regimens were recorded. The cost of treatment per individual patient was calculated, using the most recent costings.

Results: 268 (61%) Luminal B and 181 (39%) HER2 over-expressing patients were included. Trastuzumab was used in 62% (254 adjuvant & 74 neo-adjuvant). Trastuzumab treated patients had a statistically significant improvement in both 5yr DFS and 5yr OS ($p < 0.001$). Prior to the introduction of Trastuzumab the average cost was €35,776, increasing to €42,515 (Luminal B), and €45,633 (HER2-positive) in adjuvant treated patients, and increasing further in those receiving neo-adjuvant therapy to €48,175 (Luminal B) and €46,608 (HER2-positive).

Conclusions: Breast cancer treatments are continuing to evolve and become more targeted. These changes are affecting the economics of treating breast cancer significantly. However, study has shown that despite the increasing cost, an improved survival benefit warrants the increased spending for breast cancer treatment.

Poster Presentations

No	Author	Affiliation	Co-Authors	Presentation Title
1	Annie Lawlor	UL	B O'Connell	Prevention and Health Promotion in Primary Care: Recordings and Management of Obesity in Children
2	Cian Lannon	NUIG	M Fitzgibbon , MK Killilea, M Roche	The effect of repeated IFN α administration on peripheral and central inflammatory processes
3	Ruby Chang	UCC	K Cross	Ultrasound Debridement in Chronic Wound Healing: A Review of Current Evidence
4	Bernadette Byrne	UL	M Lynch, L Roche, D Wall, K Ahmed, B Ramsay	Swelling, Erythema and Induration in the genitalis of paediatric patients? Think of Metastatic Crohn's Disease - Delay in diagnosis can cause significant morbidity
5	Aisling McCarthy	NUIG	A McCarthy, P O'Shea, A Lowery, MC Denedy	ER+ Breast Cancer is Associated with Aberrant Corticosteroid Metabolism in Post-Menopausal Women.
6	Donnchadh O'Sullivan	UCC	AO'Brien Horgan, A Keane, B Malone, L O'Sullivan, S Chilakwad, T O'Flynn, P Young, T McCarthy	Basehunter- a bacterial based DNA detection
7	Fabio Margiotta	UL	A Imran, A Hannigan, D Harmon	Perceived injustice in Chronic Pain Patients
8	Amelia Hogan	NUIG	D Roshansangachin, R Lee, F Jamaluddin, G O'Boyle, F Sullivan	Quality of Life Outcomes Following Prostate Brachytherapy for the Treatment of Localised Prostate Cancer
9	Daniel Garcia	UCC	SS Ohson, L Grierson	Challenging conventional wisdom on objective competency measures in medicine
10	Sarah Walsh	UL	T Lynch	An Audit of the Management of Upper Respiratory Tract Infections
11	Anuar Ramli	NUIG	A McGuire, JK Sweeney, R McLaughlin, C Malone, A J Brown, JM Kerin	Determining changes in molecular subtype of breast cancer recurrence: loco-regional verses distant metastasis

No	Author	Affiliation	Co-Authors	Presentation Title
12	Luke Feighery	UCC	J Chandler	An audit of perioperative blood component transfusion in Cardiac Surgery in Cork University Hospital.
13	James Fitzgerald	UL	N O'Regan, D Adamis, S Timmons, C Dunne, P Trzepacz, D Meagher	The relationship between skin conductance level and delirium: a prospective study in an acute hospital setting
14	Alice Hoi Ning Tse	UCC	C Phillips, I Perry, G Browne	Obesity, inflammation, and kidney function among middle-aged Irish adults
15	John Bourke	NUIG	DP Joyce, E Ramphul, MJ Kerin, RM Dwyer	The investigation of exosome-encapsulated microRNAs as circulating biomarkers of breast cancer
16	Paul Ryan	UCC	E Falvey	Assessment of existing lay-person knowledge on the role and use of an Automated External Defibrillator in amateur sports clubs
17	John Birrane	UL	D Swan, D Aherne, R Davis, A Hannigan, D McPhillips, D Meagher, A O'Regan, P Ryan, E Schaffalitzky, W Cullen	Development and evaluation of an Educational Intervention in Youth Mental Health for Primary Care Practitioners
18	Mel Corbett	NUIG	J Doran, A Flaus, M O'Mahony	Establishment of a Cystic Fibrosis Bio-bank to Characterize Disease Progression
19	Stephanie Zahradnik	UCC	KM McReelis	An evaluation of paediatric vision screening practices for better visual health outcomes
20	Michael Kinsella	UL	AG Stack, ME Elsayed, MU Sharif, S Nic Suibhne, J Ferguson	Prevalence and correlations of Inappropriate Prescribing Practice (PIP) in Chronic Kidney Disease; a Multi-Centre Irish study
21	Avinash Kanji	UCC	P Atkinson, J Fraser, D Lewis, S Benjamin	Delays to initial reduction attempt are associated with higher failure rates in anterior shoulder dislocation: a retrospective analysis of factors affecting reduction failure
22	Ronan Cusack	UL	J Ferguson, AG Stack	Prognostic importance of Urea and Urea/Creatinine ratio for mortality as compared to Creatinine concentrations in the General Population
23	Yan Yu Tan	UCC	A Jackson, L Murphy	Prevalence of Short-Term and Long-Term HIV Treatment Toxicities in Cork, Ireland