

Annual Research Conference

Sligo University Hospital

BOOK OF ABSTRACTS



November 25 2016



Research & Education
Foundation
Sligo University Hospital



Pg.	Name of first author	Title of poster
4	Cynthia Watters	Experience of ADHD in adulthood and Barriers to Treatment
5	Roisin Lennon	The Experiences of Nurse Prescribing in the Irish Acute Services Setting
6	Geraldine O' Rourke	Identifying the barriers to antiepileptic drug adherence among Adults with Epilepsy
7	Avril Kelly	To Explore the Impact of Alcohol Related Presentations and the Application of the SAOR Model of Screening and Brief Intervention for Alcohol Misuse in the Emergency Department in Sligo University Hospital
8	Catherine Lee	A qualitative evaluation of teenagers and older adult service users' perceptions of mental health and ageing through their participation in an Intergenerational Art Program
9	Wei Theng Tan	Cognitive Dysfunction in Acute Psychosis
10	Muireann Toibin	The effect of a healthcare communication intervention - Ask Me 3 - on health literacy and participation in patients attending physiotherapy
11	Karl Milnes	Can admission blood lactate level predict length of stay in Sligo University Hospital Intensive Care Unit?
12	John Williams	Brain derived neurotrophic factor (BDNF) in the occurrence, resolution and recovery of delirium in older medical inpatients
13	Bernie McGowan	Changing trends in the incidence of hip and other osteoporotic type fractures in Ireland
14	Jo Shortt	Improving the Quality of Care for Frail Older Persons
15	Claudia O'Rourke	Checking paediatric blood sugars at triage – A Quality Improvement Project
16	Brigid McCafferty	Investigating quality of life in people with chronic mental illness
17	Tomas Murphy	Service users and carers' experiences of their mental health recovery as it relates to partnership and choice
18	Vincent Melvin	A longitudinal study of delirium motor subtypes in elderly medical inpatients
19	Anthony Ryan	Doppler echocardiographical assessment of the resting heart in the aged
20	Karen Harris	Safer, Better, Faster treatment of patients with Deep Vein Thrombosis
21	Sheila Kiely	What effect does a paediatric physiotherapist-led parent education programme have on the Incidence and Severity of Positional Plagiocephaly in babies at two months of age, compared to standard care?
22	Cathriona Walsh	Can Motivational Education improve confidence and increase uptake of the Seasonal Flu vaccine?

23	Meabh Holmes	Seasonal changes in anthropometric characteristics and injury risk in a Senior Inter -county Gaelic panel between 2013 and 2016
24	Azhar abbas	Monotherapy is effective in inducing remission in an Early Rheumatoid Arthritis population using a T2T protocol
25	Noreen Harrington	Implementation of a Registered Advanced Nurse Practitioner (RANP) led Treat to Target (T2T) in early Rheumatoid Arthritis (RA) patients.
26	Noreen Harrington	Prevalence of co-morbidities in newly diagnosed Rheumatoid Arthritis (RA) patients followed up in a Registered Advanced Nurse practitioner (RANP) clinic
27	Geraldine McCarthy	Impact of classification systems (DSM-5, DSM-IV, CAM and DRS-R98) on outcomes of delirium
28	Miray Unal	Attention Deficit Hyperactivity Disorder (ADHD) in Adults: Use of Eye-Tracker Device to Detect Attention Deficits
29	Seán Pellegrini	Staff perceptions of assistive technology in residential settings for people with intellectual disabilities
30	Stephen Daly	Proof of Principle of development of a Lateral Flow Immunoassay for detection Kidney Markers
31	Stephen Daly	The prevention of amplicon contamination in a Loop Mediated Isothermal amplification based Group B Streptococcus Assay
32	Margaret Doherty	Plasma N-glycans in colorectal cancer risk
33	Éadaoin Tyrrell	Investigation of Methods for the Analysis of Trace Metals in Urine Samples
34	Osama Hassan Elghobashy	Evaluation of treating cases of developmental dysplasia of the hip presented at the walking age with closed reduction with or without adductor tenotomy.
35	Naoimh Fox	Co-morbidity of ADHD in Adult Outpatient Mental Health Services in Sligo/Leitrim
36	Cara Conway	What is the impact of oral melatonin on seizure frequency in people with epilepsy?
37	Majella O'Donnell	A descriptive research study of the views of the public about their experience of using The Alzheimer Café
38	Keunjae Ahn	Sarcopenia – How significant a problem is it in patients with newly diagnosed rheumatoid arthritis?
39	Bernie McGowan	Delay in Diagnosis of Ankylosing Spondylitis and its effect on prognostic outcomes
40	Ann Marie Mongan	Referral pathways in new onset neovascular age-related macular degeneration at Sligo University Hospital
41	Patrick Gallagher	The Right Track? - An Audit of the Introduction of a Clinical Scaphoid Score in the Examination of Patients with Suspected Scaphoid Fractures in the Emergency Department of Sligo University Hospital
42	Kevin Murphy	An uncommon mutation in mitochondrial encephalomyopathy, lactic acidosis and stroke-like episodes (MELAS)
43	Mary Eva Regan	Annual Antimicrobial Point Prevalence Surveys (PPS) in Sligo University Hospital (SUH): 2013 to 2016

44	Morgan Lyons	Uterine Torsion in Pregnancy, a rarity in obstetric medicine, occurs twice in Sligo General Hospital
45	Eimear McGuire	Hyponatraemia associated atypical delirium
46	Orla Murray	Stroke in the Intensive Care Unit in Sligo University Hospital
47	Ahmed Al Maksoud	Are we there yet?
48	Ahmed Al Maksoud	Acute flank pain....stones not guilty
49	Leona Lally	A case of Intra-articular Steroid induced Delirium in an Elderly Patient

Experience of ADHD in adulthood and Barriers to Treatment

Cynthia Watters,¹ Dr. Dimitrios Adamis,² & Dr. Fiona McNicholas³

¹Assistant Psychologist, Psychology Services, Markievicz House, HSE, Sligo.

²Consultant Psychiatrist, Psychiatric Services, St. Columbus Hospital, HSE, Sligo

³Professor of Child and Adolescent Psychiatry, School of Medicine, UCD

Introduction

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder, which many recognise as a childhood disorder¹. However, a review of the literature as well as longitudinal studies of individuals with ADHD reveals that symptoms of ADHD can persist into adulthood^{2,3}. Regardless of this literature, there is limited evidence of the unmet needs and experiences of adults with ADHD⁴.

Aims & objectives

The aim is to better understand the impairments associated with ADHD in adulthood and the stigma attached to this illness, thus informing practitioners of the difficulties faced by individuals accessing support services and possible barriers that may affect treatment adherence, particularly within an Irish context.

Methodology

This research employed a qualitative approach using semi-structured interviews with out-patients who attend the Sligo/Leitrim Adult Mental Health Services. Participants were eligible for this study if they screened positive for symptoms of ADHD, and screened positive for ADHD following completion of Conners' Adult ADHD Diagnostic Interview for DSM-IV (CAADID). Thematic Analysis was used to interpret the findings.

Results

Seventeen out-patients were approached to participate in this research via telephone or post. Two individuals declined to participate and four individuals were unable to be contacted, resulting in eleven participants completing the semi-structured individual interviews; 9 male and 2 female with an age range of 20 to 54 years (mean age 37.64 years, SD = 11.83). Three main themes were found; The Burden of symptoms of ADHD, Perceived Positive and Negative Effects of ADHD, and Challenge of Accessing Services. Each main theme contained a few subthemes which are described in greater detail below.

Conclusion

This research highlights the experiences of adults with ADHD. Clinicians need to be aware of the consequences of the symptoms and stigma associated with ADHD to be better able to improve upon individual treatment plans.

References

¹ Rosler, M., Casas, M., Konofal, E., Buitelaar, J. (2010). Attention deficit hyperactivity disorder in adults, *World Journal of Biological Psychiatry*, 11, 684 – 698.

² Davidson, M. A. (2008). ADHD in Adults: A Review of the Literature, *Journal of Attention Disorders*, 11, 628 - 641.

³ Faraone, S. V., Biederman, J. & Mick, E. (2006). The age-dependent decline of attention deficit hyperactivity disorder: a meta-analysis of follow-up studies, *Psychological Medicine*, 36, 159 – 165.

⁴ Matheson, L., Asherson, P., Wong, I.C.K., Hodgkins, P., Setyawan, J., Sasane, R. and Clifford, S. (2013). Adult ADHD patient experiences of impairment, service provision and clinical management in England: a qualitative study, *BMC Health Services Research*, 13

The Experiences of Nurse Prescribing in the Irish Acute Services Setting.

Roisin Lennon, Women and Children's Directorate, SUH

Introduction

Since 2007, the HSE have funded 1312 to study to be prescribers with 899 (1.2% of all nurses and midwives) currently registered as RNP/RMP. This study was part of a Master's Degree to explore why these numbers have steadily declined with only 67 candidates in 2015.

Aim: To explore through descriptive phenomenology, nurse and midwife experiences of being a prescriber in the Irish Acute Services Setting.

Objectives:

1. To describe the experiences of being a RNP and RMP currently involved in prescribing practice
2. To reveal any benefits the prescribers have experienced.
3. To reveal any perceived barriers to prescribing in daily practice.
4. To understand the impact of prescribing practice on professional development and worklife.

Methodology

A qualitative design of descriptive phenomenology underpinned by Husserl's philosophy was used as the guiding framework. Purposive sampling across two hospital sites resulted in eleven participants. All participants had to be prescribing for 6 months and hold a current CPA. Colazzi's seven steps were used to analysis the data and develop themes which reflected the participant's experiences of prescribing.

Results

Three themes were identified: Having Prescribing Rights; Nurse Prescribing is Good and The Challenges of Prescribing. The safe practice and high standards that nurses bring to prescribing was a unique finding, as was increased job satisfaction and being proud to be a prescriber. Challenges included staff shortages, extra workload and the need to educate colleagues about RNPs. Standardising the prescribing course and Drugs and Therapeutics Committees is also required, to overcome some of the identified challenges.

Conclusion

Further research into the safety of nurse prescribing is recommended, to ascertain if what was described locally applies nationally. There is also a need to promote and maintain prescribing practice, to ensure that future prescribers embrace this extended scope of practice.

Identifying the barriers to antiepileptic drug adherence among Adults with Epilepsy

Ms. Geraldine O' Rourke, Candidate Advanced Nurse Practitioner Epilepsy, Neurology dept, Sligo University Hospital.

Ms. Julie Jordan O' Brien, Nurse Lecturer, Royal College of Surgeons in Ireland, Dublin.

Introduction

Antiepileptic drugs (AED) are considered the mainstay of epilepsy treatment^[1] and can result in 70% of patients achieving seizure freedom^[2]. However, 29- 39% of Adults with epilepsy (AWE) don't adhere to their AEDs^[3] leading to increased incidences of seizure-related healthcare utilizations and costs^[3 4 5]. Clinically, non-adherent AWE may be incorrectly classified as having refractory epilepsy,^[6] in addition to having increased risks of status epilepticus and Sudden Unexplained Deaths^[7 8]. While individual studies have identified barriers to adherence, contradictory findings emerged limiting substantive conclusions being reached. Therefore, identifying these barriers is imperative in developing appropriate strategies to improve adherence^[3].

Aims & objectives

The primary outcome measures were to determine AED adherence rates among AWE and thereupon, identify the barriers to adherence. Secondary outcome measures explored the impact of non-adherence on quality of life (QoL).

Methodology

A systematic review (SR) was conducted. A search strategy without time limits was undertaken in MEDLINE, CINANL, PsycINFO, EMBASE, Cochrane databases and grey literature sources. Inclusion criteria included: original research studies with adherence defined among AWE over 18 years prescribed AEDs. Studies that used participants with learning disabilities, memory impairment or severe co - morbidities were excluded. Only English language publications were considered due to lack of translation resources.

A screening process selected eight eligible studies, with data extracted into tables. Quality of evidence was conducted. Due to heterogeneity across the studies, a narrative synthesis was performed.

Results

AED non-adherence was associated with specific medication beliefs, co-existing depression/anxiety, poor medication self-administration management, uncontrolled seizures, complex regimens, lack of trust in clinician and perceived social support. Non-adherence was found to impact negatively on QoL.

Conclusion

Although included studies were of good quality, risk of biases reduced the generalisability of results. Findings suggested that comprehensive adherence assessments should routinely be performed. Recommendations for future research include the use of longitudinal research designs and a follow up SR to include 16-18-year-olds.

References

[1] McAuley JW, Mcfadden LS, Elliott JO, Shneker BF. An evaluation of self-management behaviours and medication adherence. *Epilepsy Behav.* 2008; 13(4):637-41. [2] Eatock J, Baker GA. Managing patient adherence and quality of life in epilepsy. *Neuropsychiatr Dis Treat.* 2007; 3(1):117-31. [3] Davis KL, Candrilli SD, Edin ME. Prevalence and cost of nonadherence with antiepileptic drugs in an adult managed care population. *Epilepsia.* 2008; 49(3):446-54. [4] Faught RE, Duh MS, Weiner JR, Guerin A, Cunningham C. Nonadherence to antiepileptic drugs and increased mortality SYMBOL: Findings from the RANSOM Study. *Neurology.* 2008; 71(20):1572-8. [5] Faught RE, Weiner JR, Guerin A, Cunningham C, Duh M.S. Impact of nonadherence to antiepileptic drugs on health care utilization and costs: Findings from the RANSOM study. *Epilepsia.* 2009; 50(3):501-9 [6] Brodie M. The missing link: Uncovering and managing poor adherence. 2014 June 29; Stockholm, Sweden: Highlights from the 11th European Congress on Epileptology 2014. p10. [7] Skinner HJ, Durbon-Murcia SA, Thompson AR, Medina MT, Edwards JC, Nicholas JS, et al. Adult convulsive status epilepticus in the developing country of Honduras. *Seizure.* 2010; 19(6):363-7. [8] Lathers CM, Koehlar SA, Wecht CH, Schraeder PL. Forensic antiepileptic drug levels in autopsy cases of epilepsy. *Epilepsy Behav.* 2011; 22(4):778-85.

To Explore the Impact of Alcohol Related Presentations and the Application of the SAOR Model of Screening and Brief Intervention for Alcohol Misuse in the Emergency Department in Sligo University Hospital.

Avril Kelly

Smoking Cessation Service SUH

Introduction

This research investigated the effects of alcohol related presentations and explored the application of the Support, Ask & Assess, Offer Assistance, Refer (SAOR) Model of Screening and Brief Intervention (SBI) for Alcohol Misuse in the Emergency Department (ED) in Sligo University Hospital (SUH).

Aims & objectives

To explore the impact of alcohol related presentations on staff and ambulance resources in the ED in SUH. To identify the experiences and challenges faced by ED staff when treating alcohol related presentations and discover their attitudes towards these patients. To ascertain the level of awareness and quantify the application of the SAOR Model of screening and Brief Intervention amongst ED staff in SUH.

Methodology

The researcher collected primary data using a quantitative survey design and collected secondary data using a quantitative analysis of patient medical records. The researcher defined the target population of the survey as all staff working in the ED in SUH. 45 participants were selected as the sample size for this research. The target population for the patient record review was defined as all patients presenting to the ED in SUH with alcohol related issues between the age of 12-65. A sample of 306 records were selected from 4,997 patient records that met the inclusion criteria set for the study.

Results

The study found that 15% of all alcohol related presentations were due to intoxication alone. The peak time for alcohol related presentations was between 12am-4am (26.5%) and over half (51.6%) of patients travelled by ambulance. 90% of ED staff in SUH reported that they were not aware of the SAOR Model for SBI.

Conclusion

The findings of this study highlights the pressing need for the issues raised to be addressed through the use of Screening & Brief Intervention in the ED and acute hospital settings in order to reduce the unnecessary strain these presentations are posing on the country's valuable health system and health care professionals.

A qualitative evaluation of teenagers and older adult service users' perceptions of mental health and ageing through their participation in an Intergenerational Art Program.

Dr. Catherine Lee ¹, Gavin Sweeney ², Naomi Draper, Niamh O'Connor, Ruth Boland, Louise Larkin, Francis Taheny, Marguerite Cryan & Dr. Geraldine McCarthy, Psychiatry of Old Age, Liscarney House, Pearse Road, Sligo.

Introduction

International research has shown the benefits of intergenerational programs in reducing stigma and stereotyping whilst also bridging the gaps between the generations (Anderson et al., 2016¹; Belgrave, 2012²). There is a dearth of research carried out examining older adult mental health service users and teenagers' experiences of intergenerational working from an Irish perspective.

Aims & objectives

This study aimed to address this gap by evaluating an eight week intergenerational art program which consisted of teenagers (n=4) and older adult mental health service users (n=4). The study aimed to examine the participants' perceptions of ageing and mental health and to determine if either generation changed their attitudes towards each other. The benefits of intergenerational art programs in the context of reducing stigma in mental health and ageing were also explored.

Methodology

The study employed a qualitative research methodology using semi-structured interviews. Thematic analysis was used to analyse the qualitative data.

Results

The findings revealed that teenagers' understanding of mental health was based on "visibility of behaviours, madness and a negative media portrayal". Their understanding of mental health changed to "the visibility and invisibility of mental health", and the "normalisation of people with mental health difficulties". Older adults' perceptions of mental health were based on "old psychiatric hospitals and being locked up". The findings showed older adults' perceptions of teenagers were strongly influenced by negative media reports. After completion of the project, both groups reported a positive change in their understanding of mental health and ageing. Both groups identified "shared experiences, the development of common bonds and relationships, storytelling, learning new skills and enjoyment" as the benefits of intergenerational working.

Conclusion

The strengths and limitations of the study were outlined with suggestions for future research. Recommendations for practice were discussed in terms of the benefits of intergenerational programs in fostering relationship and reducing stigma in ageing and mental health.

References

1. Anderson, S., Fast, J., Keating, N., Eales, J., Chivers, S., & Barnet, D. (2016). Translating knowledge: Promoting health through intergenerational community arts programming. *Health Promotion Practice*, 1-11.
2. Belgrave, M. (2012). Implementing music therapy-based intergenerational programs in the community. *International Journal of Arts in Society*, 6 (6), 1-11.

Cognitive Dysfunction in Acute Psychosis

Tan, W.T.[1], Lowry, G., Adamis, D.[1,2]

[1] School of Medicine, NUI Galway, Galway. [2] Department of Psychiatry, Sligo Mental Health Service, Sligo.

Introduction

Patients with psychosis often present with cognitive dysfunction during the course of their illness¹. Inflammatory markers such as cytokines² and neurotrophins³ have been investigated as they are relevant to the change in cognitive function.

Aims & objectives

To evaluate the cognitive function between patients with acute psychosis and those without. Moreover, this study also investigates cytokines and neurotrophins levels in acute psychosis and their relation with cognition, severity of psychosis and trajectory of their levels across time and under treatment.

Methodology

This is a longitudinal, observational, pilot study, of psychiatric inpatients. Participants were assessed on the first day using Brief Psychiatric Rating Scale, CAGE, Trail making test B and Wisconsin Card Sorting Test. These assessments were repeated weekly until patients were discharged. Blood samples were also collected on the same day for cytokines and neurotrophins analysis. However, the result on cytokines and neurotrophins levels is still pending, therefore only clinical findings will be presented.

Results

31 patients (mean age: 43.7, SD: 18.9, 14 females and 17 males) were recruited. Eleven were acutely psychotic. Generalized Estimating Equations modelling was used to compare these two groups based on cognitive and demographic variables. Patients with psychosis are more likely to have significantly lower scores for CAGE (Wald- $\chi^2=6.268$, $df=1$, $p=0.012$), significantly more abnormal scores in Trail Making Test B (Wald- $\chi^2=7.338$, $df=1$, $p=0.007$), Failure To Maintain Set (Wald- $\chi^2=8.323$, $df=1$, $p=0.004$) and Perseverative Errors (Wald- $\chi^2=4.385$, $df=1$, $p=0.036$) although they have more years of education than those without psychosis.

Conclusion

These data show individuals with acute psychosis have impaired cognitive function compared the others.

References

1. Dickerson F, Boronow JJ, Stallings C, Origoni AE, Cole SK, Yolken RH. Cognitive functioning in schizophrenia and bipolar disorder: Comparison of performance on the Repeatable Battery for the Assessment of Neuropsychological Status. *Psychiatry Research*. 2004;129(1):45-53.
2. Ribeiro-Santos R, Teixeira AL, Salgado JV. Evidence for an immune role on cognition in schizophrenia: A systematic review. *Current Neuropharmacology*. 2014;12(3):273-280.
3. Nurjono M, Lee J, Chong SA. A review of brain-derived neurotrophic factor as a candidate biomarker in schizophrenia. *Clinical Psychopharmacology and Neuroscience*. 2012;10(2):61-70.

The effect of a healthcare communication intervention - Ask Me 3 - on health literacy and participation in patients attending physiotherapy

Muireann Toibin, HSE Community Physiotherapy, Sligo/ Leitrim, Dr. Tara Cusack, School of Public Health, Physiotherapy and Population Science, University College Dublin.

Introduction

The European Health Literacy Survey (2011) reported half of all Europeans possibly have limited health literacy [1]. There is often a gap in understanding and expectations between clinicians and patients [2]. Participation - where patients question and volunteer information to streamline treatment - is enhanced by health literacy and a clinic atmosphere that welcomes discussion [3,4,5,6]. Ask Me 3 is a bilateral healthcare communication intervention [7]. It encourages healthcare professionals to openly discuss scenarios using lay language and patients to question, clarify and reiterate explanations during consultations.

Aims & objectives

To measure health literacy and participation in patients attending physiotherapy.

To monitor and compare the impact of implementing Ask Me 3 on patients' health literacy and participation measures.

Methodology

Five physiotherapist and twenty adult patient participants completed a cluster control pilot intervention study in two physiotherapy clinics over a five week period. Ethics approval was granted by Sligo University Hospital Research Ethics Committee. Participants in the intervention clinic received training in Ask Me 3. All patient participants completed the Newest Vital Sign - health literacy outcome measure [8] and a bespoke mixed method questionnaire to measure participation pre and post the intervention period. Post study feedback was sought from all physiotherapists. Quantitative data collected was analysed for changes within and between groups using SPSS version 20. Qualitative data was interpreted using thematic analysis.

Results

No statistical difference was found between the two groups' outcome measures in any quantitative analysis. Health literacy improved significantly ($p \leq 0.01$) in both groups. The qualitative analysis found changes in empowerment to participate in the intervention group only.

Conclusion

Increasing physiotherapists' health literacy awareness improves the health literacy of patients attending them [9]. Ask Me 3 empowers patients to participate in their own healthcare by asking questions and facilitates physiotherapists to tailor explanations to the patients' needs.

References

1. K. Sorensen et al., Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). *Eur J Public Health* **25**, 1053-1058 (2015).
2. B. D. Weiss, How to bridge the health literacy gap. *Fam Pract Manag* **21**, 14-18 (2014)
3. K. Haywood, S. Marshall, R. Fitzpatrick, Patient participation in the consultation process: a structured review of intervention strategies. *Patient Educ Couns* **63**, 12-23 (2006).
4. M. Edwards, M. Davies, A. Edwards, What are the external influences on information exchange and shared decision-making in healthcare consultations: a meta-synthesis of the literature. *Patient Educ Couns* **75**, 37-52 (2009).
5. A. C. Eldh, I. Ekman, M. Ehnfors, Conditions for patient participation and non-participation in health care. *Nurs Ethics* **13**, 503-514 (2006).
6. J. Protheroe, H. Brooks, C. Chew-Graham, C. Gardner, A. Rogers, 'Permission to participate?' A qualitative study of participation in patients from differing socio-economic backgrounds. *Journal of Health Psychology* **18**, 1046-1055 (2013).
7. A. National Patient Safety Foundation. (National Patient Safety Foundation, Boston, USA 2016), pp. Health literacy resource to improve communication between patients and healthcare practitioners in the health care setting.
8. G. Rowlands et al., Development and validation of a measure of health literacy in the UK: the newest vital sign. *BMC Public Health* **13**, 116 (2013).
9. K. Ennis, K. Hawthorne, D. Frownfelter, How physical therapists can strategically effect health outcomes for older adults with limited health literacy. *J Geriatr Phys Ther* **35**, 148-154 (2012).

Can admission blood lactate level predict length of stay in Sligo University Hospital Intensive Care Unit?

Karl Milnes, Intensive Care Unit, Sligo University Hospital.

Introduction

In the setting of impaired tissue perfusion and microcirculation hyperlactatemia (Blood lactate > 2mmol/L) can occur.¹ Numerous studies have established hyperlactatemia as a marker of disease severity in ICU populations. ICU length of stay is closely aligned to disease severity.²

Aims & Objectives

The aim of this study is establish whether admission Blood Lactate Levels can predict length of stay in Sligo University Hospital Intensive Care Unit?

Methodology

A retrospective analysis of all patients admitted to ICU between December 2014 and August 2016.

Exclusion criteria were those under 16 years of age and those who had no blood lactate measurements during their ICU stay. The cohort size totalled 470 patients.

Using a SQL script of the ICU Clinical information System, parameters for each patient were obtained. The parameters included Age, Gender, Admission date/ time, Discharge date/time, Length of stay, Predicted Mortality rate, Discharge Outcome, hospital speciality and all blood lactate measurements during stay.

The lactate levels were grouped:

<0.6 mmol/L

0.6-0.99 mmol/L

1 – 1.99 mmol/L

2 – 4.99 mmol/L

>4 mmol/L

The data sets were analysed using two ways ANOVA to assess for any relationship between blood lactate levels and ICU length of stay. Statistical analysis was performed using MS Office Excel 2013.

Results

The cohort size totalled 470 patients, 43% female, and 57% male. Median age was 69 ± 17.3 years. 38.1% medical patients, 61.9% Surgical. The average ICU length of stay was 5.35 days.

Hyperlactatemia was found in 118 (25.1%) patients and massively elevated (>4 mmol/L) in 49 (10.4%) patients.

Mortality was 10.8% in those with a normal lactate level and 28.9% in the hyperlactatemia whereas those with severe hyperlactatemia mortality increased to 71.4%.

Statistical analysis of the relationship between admission lactate levels and ICU LOS was not statistically significant (p>.05).

Conclusion

The Study demonstrates an increased blood lactate on admission increases ones mortality rate, but cannot predict the Intensive care length of stay.

References:

1. Pettila, V et al: Target Tissue perfusion versus macrocirculation-guided standard care in patients with septic shock (TARTARE-2S): study protocol and statistical analysis plan for randomized controlled trial. *Trials*, vol.17, 384, 2016
2. T Heijnen, A Wilmer, D Blockmans & L Henckaerts (2016) Outcome of patients with systemic diseases admitted to the medical intensive care unit of a tertiary referral hospital: a single-centre retrospective study, *Scandinavian Journal of Rheumatology*, 45:2, 146-150, DOI: 10.3109/03009742.2015.1067329

Brain derived neurotrophic factor (BDNF) in the occurrence, resolution and recovery of delirium in older medical inpatients.

John Williams¹, Karen Finn², Vincent Melvin³, David Meagher⁴, Geraldine McCarthy³, Dimitrios Adamis³

1. Pathology Department, Sligo University Hospital, .2. Biological Sciences, Cork Institute of Technology 3. Sligo Mental Health Services, 4. University of Limerick

Introduction

BDNF plays a key role in neuronal survival, cell differentiation, synapse formation, synaptic plasticity, and cognitive functions. Studies of the association between blood BDNF levels and delirium are very few and have yielded mixed results.

Aims & objectives

To investigate serum BDNF levels in the occurrence, resolution and recovery of delirium.

Methodology

Prospective, longitudinal study. Participants were assessed twice weekly with Montreal Cognitive assessment (MoCA), Delirium Rating Score (DRS-R98), Acute Physiology and Chronic Health Evaluation II (APACHE-II). Blood was drawn on the same day and centrifuged within 20 minutes. BDNF levels were estimated using Promega BDNF Emax(R) immunoassay system. Delirium has been defined as per DRS-98R (cut-of >16) and recovery of delirium defined as at least two consecutive assessments without delirium prior to discharge. Resolution is defined as recovered from delirium for < 2 consecutive assessments. Controls (N=140) were obtained from patients admitted without delirium.

Results

No difference was observed in the levels of BDNF between those with delirium and the control group. In the 58 patients who presented with delirium we analysed the levels of BDNF and the other variables on delirium resolution and recovery. In the subsequently observations (max =8) some of these patients continued to be delirious until discharge or death (n=39) whilst others recovered (n=19). Using Generalized Estimating Equations models we found that BDNF levels and MoCA scores had a significant association or predictive value with delirium cases who became non-delirious (resolution) during the assessments and those who experienced overall recovery. BDNF (Wald $\chi^2=11.652$, df:1, $p=.001$), for resolution and for recovery Wald $\chi^2=7.155$; df:1, $p=.007$. No significant association was found for the other variables (APACHE-II, history of dementia, age or gender).

Conclusion

Serum BDNF levels do not have a direct association with the occurrence of delirium. However, rising levels of BDNF during hospitalisation is associated with the likely recovery from delirium. No previous study has investigated BDNF in the recovery of delirium. These results needs replication with a bigger study before firm conclusions can be reached.

Changing trends in the incidence of hip and other osteoporotic type fractures in Ireland

B. McGowan^{1,5}, M.S. Kelly¹, M. McKenna², K. Bennett³, B. Whelan^{1,4}, C. Silke¹.

1. The North Western Rheumatology Unit, Our Lady's Hospital, Manorhamilton, Co Leitrim, Ireland,
2. St. Vincent's University Hospital, University College Dublin, Dublin, Ireland,
3. Population Health Sciences Division, Royal College of Surgeons in Ireland, Dublin 2
4. The Department of Medicine, NUIG
5. The Department of Pharmacology and Therapeutics, Trinity Centre for Health Sciences, St. James's Hospital, Dublin 8.

Introduction

Previously, we reported a continuous increase in the incidence of all osteoporotic type fractures in Ireland between 2000 and 2009 with a decrease in the age standardised rates with the exception of the 55-59 year age group [1].

Aims and Objectives

1) to continue the trend analyses of all hospitalisations for osteoporotic-type fractures in males and females aged 50 years and over in Ireland between 2010 and 2014. 2) to project the number of all osteoporotic type fractures and associated costs in the Republic of Ireland by 2046.

Methodology

Age- and gender-specific trends in the absolute numbers and direct age-standardised rates of hospitalisations for all osteoporotic-type fractures in ≥ 50 year age groups were analysed using the Hospital In-Patient Enquiry system database. Future projections of numbers of fractures to 2046 were computed based on the 2014 incidence rates applied to the projected populations.

Results

Since 2010, the absolute numbers of all osteoporotic-type fractures decreased by 0.4% in females and by 3.9 % in males while the numbers of hip fractures increased by 0.2% in women but decreased by 12.8% in males. The age-standardised rates for hip fractures decreased in all age groups in both females and males with the exception of males ≥ 85 years who showed a 1.8% increase. Assuming stable age-standardised incidence rates from 2014 over the next 30 years, the number of hospitalisations for hip fractures is projected to increase 3 fold by 2046. Approximately 50% of these hip fracture patients will be in the 85 or older age group.

Conclusion

The study identified a stabilising of the trends in the number of hospitalisations for osteoporotic-type fractures in Ireland since 2010. The age standardised rates in both women and men decreased with the exception of the over 85 year age group. The declining trends may be partly explained by the specific national programs on falls prevention implemented in Ireland, heightened awareness of osteoporosis along with an increasing aging population.

1. McGowan B , Casey MC, Silke C, Whelan B, Bennet K. Hospitalisations for fracture and associated costs between 2000 and 2009 in Ireland: a trend analysis Osteoporosis International March 2013, Volume 24, Issue 3, pp 849-857.

Improving the Quality of Care for Frail Older Persons

Ms Maura Heffernan, Assistant Director of Nursing
Dr Grainne O'Malley, Consultant Geriatrician
Ms Jo Shortt, Senior Project Manager
(on behalf of the Frail Older Persons Implementation Team)

Introduction

A significant proportion of older people presenting to hospital setting are frail and less likely to adapt to stressors such as acute illness¹. This increased vulnerability contributes to multiple adverse outcomes such as falls and increased hospital stays. The Hospital and Community Health Care Organisation (CHO) where this project was implemented is severely challenged by inadequate bed capacity and a 26% increase in patients on trolleys. The patient demographic is older with 14.5% aged 65yrs and older compared to 11% nationally². There was a lack of co-ordinated integrated approach to caring for frail older patients.

Aims & objectives

This project set out to improve the experience of care for frail older patients by the development of an integrated frailty pathway.

The overall aim was:-

- Increase patient satisfaction rating from 67% to 95%
- Decreased LOS of 1 bed day for >70 with no increase in readmission rate
- Reduce patient experience times >9 hours in ED to 0%
- No increase in adverse events such as falls

Methodology

These aims were addressed by establishing a frailty pathway with a particular focus on integration between community and acute services. This was achieved through a cohesive approach to care via MDT and the establishment of a specialist gerontology ward.

A patient centred questionnaire was also developed

Results

The median length of stay for this cohort of patients reduced from 12.6days to 9.73days, (- 22%) with no increase in readmission rates or adverse events.

Bed days saved is >3000 beddays per year.

A patient centred questionnaire showed an increase in patient satisfaction levels from 67% to 79.6% after 3 months.

Conclusion

Although at an early stage, this project has delivered many benefits to date. Placing the patient at the centre of the project has been key to its success

References

1. Clegg A, Young J, Liffie S, Rikkert MO, Rockwood, K (2013). Frailty in elderly people. Lancet 381(9868):752-62.
2. CSO Ireland,
http://www.cso.ie/en/media/csoie/census/documents/census2011profile2/Profile2_Older_and_Younger_Entire_Document.pdf (last accessed 1st September 2016)

Checking paediatric blood sugars at triage – A Quality Improvement Project

O'Rourke, C. Harris, K.

Sligo Emergency Department, Sligo.

Introduction

In paediatric patients, it is important to detect and treat hypoglycemia and hyperglycemia promptly^{1,2,3}. No clear guideline exists as to which presentations merit a blood sugar measurement in the emergency department or when it should be taken.

Aims and Objectives

The objectives of this audit were to identify what percentage of selected children were having a blood sugar measured at triage, and gauge the prevalence of hypoglycemia and hyperglycemia in paediatric patients presenting to our department. Our objective post audit was to introduce a guideline to improve the appropriate use of blood sugar testing at triage.

Methodology

The audit was a retrospective chart review of patients meeting inclusion criteria that presented to the Sligo Emergency Department over 7 consecutive days. The inclusion criteria were age <14 years, and any of the following presenting complaints: fever, vomiting, diarrhoea, abdominal pain, reduced oral intake, lethargy, or seizure. The results of the audit were presented at the departmental teaching and posters with a guideline for when to take a blood sugar were installed in the triage rooms. A re-audit was then performed in the same manner and time period.

Results

Of the 70 patients in the initial audit, 35 patients meeting criteria had a blood sugar measured at triage, an incidence of 50%. Of the 35 measured, 5 were outside the normal range; 4 hypoglycemic readings, and 1 hyperglycemic reading (a new diagnosis of Diabetes Mellitus). Upon re-auditing, 92% of patients audited had a blood sugar measured at triage.

Conclusion

A blood sugar should be measured at triage in all children with presentations that put that child at risk for either hypoglycemia or hyperglycemia. With education and the introduction of a guideline, the measurement of blood sugar in selected patients in our department improved from 50% to >90%.

References:

1. Haymond MW, Sunehag A. Controlling the Sugar Bowl; Regulation of glucose homeostasis in Children. *Endocrinol Metab Clin North Am* 1999; 28:663
2. Rewers A, Klingensmith G, Davis C, et al. Presence of Diabetic Ketoacidosis at diagnosis of Diabetes Mellitus in youth: the Search for Diabetes in Youth Study. *Pediatrics* 2008; 1221:1258.
3. Chaussain JL, Georges P, Calzada L, Job JC. Glycemic response to 24-hour fast in normal children: III. Influence of age. *J Pediatr* 1977; 91:711.

Investigating quality of life in people with chronic mental illness

Dr Brigid McCafferty, Dr Dimitrios Adamis

General Adult Psychiatry, Sligo Leitrim Mental Health Services

Introduction

The association between chronic mental illness and significantly reduced quality of life in relation to the general population is well documented in the literature internationally.

Aim

To investigate the quality of life of people with chronic mental illness taking psychotropic medication living in the community and attending the Mental Health Services of Sligo Town.

Method

Analysis of data collected from a series of outpatient clinics dedicated to the care of people with chronic mental illness. Data was collected from the clinic proforma that includes demographics, diagnoses, HONOS and WHOQOL-BREF scale scores. We converted raw scores for each domain in the WHOQOL-BREF to transformed scores in the range 0-100 for ease of comparison with other validated instruments tools.

Results

Total number of patients 24. Mean age 51.1 years, SD 11.6, 7 female (28%). Primary psychiatric diagnosis: paranoid schizophrenia 16 (67%), schizoaffective disorder 3 (13%), bipolar affective disorder 2 (8%), recurrent depressive disorder 2 (8%), traumatic brain injury 1 (4%). Mean HONOS score 3.9, SD 2.5. WHOQOL-BREF Domain transformed scores: Physical health mean 70.5, SD 16.9, Psychological health mean 72, SD 18.4, Social relationships 61.7, SD 19.9, Environment 76.8, SD 18.6.

Discussion

Quality of life is a complex multidimensional entity and its assessment relies on subjective reporting and analysis as supported by validated instrument tools. Our results suggest that quality of life is reasonably high among this cohort of patients, contrasting much of the current literature surveying quality of life in similar populations. The mean score for social relationships was lower than other domains. This may suggest that a lack of socialisation may be associated with chronic mental illness and identifies a clinical focus for improvement of quality of life. This is an ongoing study surveying a small number of patients thus far.

References

Parletta, N., Aljeesh, Y., & Baune, B. T. (2016). Health Behaviors, Knowledge, Life Satisfaction, and Wellbeing in People with Mental Illness across Four Countries and Comparisons with Normative Sample. *Frontiers in Psychiatry*, 7, 145. <http://doi.org/10.3389/fpsy.2016.00145>

Huang R.R., Chen Y.S., Chen C.C., Chou F.H., Su S.F., Chen M.C., Kuo M.H., Chang L.H. (2012). Quality of life and its associated factors among patients with two common types of chronic mental illness living in Kaohsiung City. *Psychiatry and Clinical Neurosciences*, 66(6):482-90. doi: 10.1111/j.1440-1819.2012.02380.x.

Margariti M., Ploumpidis D., Economou M., Christodoulou G.N., Papadimitriou G.N. (2015). Quality of life in schizophrenia spectrum disorders: associations with insight and psychopathology. *Psychiatry Research*, 28;225(3):695-701. doi: 10.1016/j.psychres.2014.11.016

Service users and carers' experiences of their mental health recovery as it relates to partnership and choice

Tomas Murphy¹, Michele Glacken²

1 Mental Health Service Sligo/Leitrim/South Donegal, 2 St. Angela's College; A college of NUI Galway

Introduction

The concept recovery became a core element of Irish Mental Health policy with its inclusion in the publication *A Vision for Change: Report of the Expert Group on Mental Health Policy*¹ which was and remains today as the shaper of Mental Health Service delivery in Ireland. It clearly stipulates in the aforementioned document that the "recovery approach should inform every level of service provision" and the focus of care delivery should not be on cure per se but on enhancing an individual's ability to "live productive and meaningful life" despite having a mental illness.

Aims & objectives

To determine if persons with a mental health diagnosis and their carers perceive they are receiving sufficient and appropriate support on their recovery journey from the Sligo/Leitrim/ South Donegal/ west Cavan mental health services.

Methodology

A mixed methods sequential research design was deployed with each arm (qualitative & quantitative) having equal importance. A multi-pronged sampling strategy was utilised to recruit service users and carers to the study. Service users completed an anonymous study specific postal survey (n=152) and in-depth interviews (n=31). Six carers participated in in-depth interviews solely. The survey data was subjected to statistical analysis and the data generated from the in-depth interviews underwent thematic analysis. The software package SPSS and NVIVO assisted with data organisation and analysis. Data collection and analysis was guided by the Mental Health Reforms building blocks of recovery: hope, listening, partnership, choice and social inclusion.² This poster will consider specifically the mental health recovery journey as it relates to the building blocks partnership and choice.

Results

The findings from the survey data and the interview data complimented each other. Service users and carers reported variability in how they perceive partnership and choice. This variability is frequently dependent on the quality of the therapeutic relationship between the service user and the mental health care provider and the context within which care is being delivered.

Conclusion

Areas where service users and carers perceive they are deficits in their partnership with mental health service providers need to be addressed. The perceptions of limited choice in relation to therapeutic options need to be considered by the mental health service. The elements of partnership and choice that are perceived positively need to be capitalised upon.

References

1. Department of Health (2006) *Vision for change: The report of the expert group on Mental Health Policy* Dublin: Government Publications Office
2. Mc Daid, S (2013) *Recovery..what you should expect from a quality Mental Health Service* Dublin: Mental Health reform

A longitudinal study of delirium motor subtypes in elderly medical inpatients

Vincent Melvin, *David Meagher, Geraldine McCarthy, Dimitrios Adamis

Sligo Mental Health services, *University of Limerick

Introduction

Delirium is a common syndrome with considerable clinical heterogeneity that includes a variety of motor subtypes. Because the phenotypes of delirium typically fluctuate, understanding the longitudinal stability of subtypes is crucial to evaluate their relevance for treatment and outcome.

Aims & objectives

To examine the changes (variability) in motor subtype profile in patients with delirium.

Methodology

Observational, longitudinal study of elderly medical patients admitted to Sligo University Hospital. Measurements: Delirium Motor Subtype Scale (DMSS), DRS-R98, and assessments of comorbidity and function.

Results

58 out of 198 participants developed delirium (prevalence and incident). Mean age (n=58) equal 84.02 (SD 6.5), 27 (46.6%) females.

The hyperactive subtype and no subtype n=20 (34.5%) were identified as the most common, followed by hypoactive n=15 (25.9%), and mixed subtype n=3 (5.2%), at the first assessment. The 'no subtype' had lower DRS-R98 scores when compared to other subtypes (p-values<0.01). After excluding participants with only one assessment (n=2), 29 (51%) did not change subtype during the assessments, 22 (39.3%) had motor fluctuation and 5 (8.9%) were consistently classed as 'no subtype' (note that those who changed from none to any subtype or from any subtype to none were not deemed as a change in subtype). Our findings demonstrate that there was no significant difference in variability and thus the motor subtypes in the present study were found to be stable ($\chi^2 = 2.571$, df: 1, p= 0.109). In addition, there was no significant effect observed in relation to the other variables e.g. demographics, severity of illness, DRS-R98, MoCA.

Conclusion

Previous studies found motor subtype profile typically stable for orthopaedic patients with delirium. This is the first study which examined the previously mentioned stability in medical inpatients, with similar results. Thus evidence from cross-sectional studies of motor subtypes can be applied to many patients with delirium.

Doppler echocardiographical assessment of the resting heart in the aged

Anthony Ryan

Cardiac Investigations department, SUH

Objectives

To determine the influence of aging on measured left ventricular (LV) diastolic parameters using healthy subjects aged 40-79 years. To propose age related reference values for LV filling pressure, LV isovolumic relaxation time (LV IVRT) and myocardial stiffness index for each decade using pulsed waved tissue Doppler.

Background

Pulsed wave tissue Doppler parameters have been used for over a decade in the clinical setting as an aid to the evaluation of diastolic function and filling pressures, however there is limited information on normal reference ranges especially in middle age and the older person.

Methods

Subjects with no known history of cardiovascular disease were selected for this prospective study. All subjects underwent routine 2-dimensional echocardiography and Doppler studies. Pulsed wave tissue Doppler was performed to measure peak S', E' and A' myocardial velocities from both the medial and the lateral mitral annulus. The mean E' peak velocity was (medial E' + lateral E') calculated, and mean E/E' ratios of the two annular sites were then used as an index of left ventricular filling pressure. The study population was divided into four age decades: 40-49, 50-59, 60-69, 70-79 years. The LV filling pressure, isovolumic relaxation time and stiffness index were recorded for each of the four decades to determine normal reference ranges from middle age to the older person.

Results

One hundred and twenty-one healthy subjects (Male, n=65) aged 40-79 years were included in this study. LV filling pressure ($p = 0.005$), LV IVRT ($p < 0.001$) and myocardial stiffness ($p = 0.003$) significantly increased with age. A trend was observed for the greatest increase to occur in the last two age groups (60-79 years). A reference value table for these three parameters was created.

Conclusions

The results of this study quantify reference values for average diastolic parameters in healthy middle aged and older subjects. This study confirms the independent impact of aging on average diastolic parameters and indexes obtained by pulsed tissue Doppler imaging. Age should be taken into account when tissue Doppler is used to assess LV diastolic function.

Safer, Better, Faster treatment of patients with Deep Vein Thrombosis

Dr.K.Harris, Consultant in Emergency Medicine, Dr. G. O'Malley. Consultant Geriatrician,
Dr. M. Khalil, Registrar in Medicine, Sligo University Hospital

Introduction

Acute venous thromboembolism has an annual incidence of 1-2 per 1000 persons.
Vitamin K antagonists were the traditional treatment but have disadvantages.
Direct oral anticoagulants (DOACs) offer a safe, cost effective alternative.

Aims & objectives

1. To document our current practice in patients with confirmed DVT.
2. To ensure safe, efficient management of patients with confirmed DVT.
3. To introduce outpatient treatment with DOACS for suitable patients.

Methodology

We carried out an audit between September 2013 to March 2014
-to identify how many Doppler US scans we are doing
-to identify patients with confirmed DVT and look at how they were managed
Patients with confirmed DVT were identified retrospectively using the radiology PACS.
The charts of these patients were reviewed and the relevant data extracted.

We introduced a care pathway for management of patients with suspected DVT and confirmed DVT.
This helped to risk stratify the patients and guide further investigation and management.

We performed the re-audit using the same methodology for the 6 month period from July to December 2015.

Results

Prior to the introduction of the guideline 140 doppler ultrasounds were requested for suspected DVT from ED and AAU.

14 of these were positive for DVT

50% of the patients were treated with LMWH/Warfarin although 100% were suitable for a direct oral anticoagulant.

The length of stay was 0-16 days with a mean of 4 days.

For patients on warfarin the time to therapeutic range was 2-22days.

In the re-audit there were 12 confirmed DVTs. 10 of these were treated with DOACs and 2 with LMWH (oncology patients for whom DOACs are not licensed).

The length of stay for those admitted was a range of 2-11 days. The indication for admission in all cases was for other co-morbidities or social reasons.

Conclusion

Introduction of an evidence based care pathway for patients with confirmed DVT has resulted in safer, better and faster treatment.

The reduced admission rates have resulted in a significant cost saving for the hospital.

It has also made beds available for other patients thus improving patient flow.

What effect does a paediatric physiotherapist-led parent education programme have on the Incidence and Severity of Positional Plagiocephaly in babies at two months of age, compared to standard care?

Sheila Kiely, Clinical Specialist Physiotherapist, Physiotherapy Department, Sligo University Hospital, Ireland; Cristina Rafter, Clinical Specialist Physiotherapist, Physiotherapy Department, Great Ormond Street Hospital, London, UK; Dr. Harriet Shannon, Senior Teaching Fellow, Great Ormond Street Institute of Child Health, University College London, UK

Introduction

Positional plagiocephaly (PP) is a deformational skull deformity that affects otherwise healthy infants in the first six months of life¹. Parent education programmes are advocated in the literature for the prevention of PP². Paediatric physiotherapists who treat infants with PP as part of their clinical caseloads have valuable experience in the area of PP³ but usually have no role in delivering PP prevention programmes for parents^{4,5,6}.

Aims

The aim of the study was to investigate the effects of a group based parent education session, delivered by a paediatric physiotherapist on the Maternity ward on the day of discharge, on the incidence and severity of PP in babies at two months of age, compared to normal care.

Methodology

A prospective, non-randomised, controlled, experimental study was carried out on the maternity unit of an Irish regional teaching hospital. Mothers in the control group received PP prevention advice as part of their standard care from a midwife or women's health physiotherapist. Mothers in the intervention group also received standard care but participated in an additional group education session delivered by a paediatric physiotherapist prior to discharge.

Results

A total of 114 mothers and 115 babies participated in the study. At the two month follow-up assessment the incidence of PP in the intervention group was 26% compared to 54% in the control group (difference -28%, (95% CI (-43.6 to -10.2), $p=0.002$). Mothers in the intervention group were more likely to adhere to information regarding PP prevention strategies in the domains of infant head turning ($p=0.0002$), environmental adaptations of nursery equipment ($p=0.0002$), frequent lifting for feeding ($p=0.02$) and were more satisfied with the information they received compared to mothers in the control group ($p=0.007$).

Conclusions

A paediatric physiotherapist-led parent education session, that promoted awareness of and adherence to PP prevention strategies during early infant care-giving activities, significantly reduced the incidence of PP at two months of age and increased maternal satisfaction with the advice they had received.

References

1. MAWJI, A., VOLLMAN, A. R., HATFIELD, J., MCNEIL, D. A. & SAUVÉ, R. 2013. The Incidence of Positional Plagiocephaly: A Cohort Study. *Pediatrics*, 132, 298-304.
2. LAUGHLIN, J., LUERSEN, T. G. & DIAS, M. S. 2011. Prevention and management of positional skull deformities in infants. *Pediatrics*, 128, 1236-1241.
3. LEUNG, A., WATTER, P. & GAVRANICH, J. 2014. Characteristics of infants with positional abnormal head shapes and their physiotherapy service at an Australian community health facility. *Pediatric Health, Medicine and Therapeutics*, 5, 83-92.
4. CAVALIER, A., PICOT, M. C., ARTIAGA, C., MAZURIER, E., AMILHAU, M. O., FROYE, E., CAPTIER, G. & PICAUD, J. C. 2011. Prevention of deformational plagiocephaly in neonates. *Early Hum Dev*, 87, 537-43.
5. AARNIVALA, H., VUOLLO, V., HARILA, V., HEIKKINEN, T., PIRTTINIEMI, P. & VALKAMA, A. M. 2015. Preventing deformational plagiocephaly through parent guidance: a randomized, controlled trial. *Eur J Pediatr*, 174, 1197-208.
6. LENNARTSSON, F., NORDIN, P. & WENNERGREN, G. 2016. Teaching Parents How to Prevent Acquired Cranial Asymmetry in Infants. *J Pediatr Nurs*.

Can Motivational Education improve confidence and increase uptake of the Seasonal Flu vaccine?

Dr Cathriona Walsh, Community Medical Department, Markievicz House, Sligo

Introduction

75% of Health Care Staff should receive the annual flu vaccine according to the WHO. The uptake in Hospital Staff in Ireland is less than 25%. The Department of Health recommend vaccination and have lowered the Health Staff uptake target to 40% in an effort to increase confidence in the vaccine¹.

Aims & objectives

Can a short motivational power-point presentation induce behavioural change and result in increased uptake of the seasonal Flu vaccine among HSE Managers?^{2,3}

Methodology

A before and after design study measuring willingness to accept the flu vaccine and behaviour change following an intervention was carried out on 18 Managers. All present at the Heads of Service Meeting were included. The Managers received a routine Flu education lecture the preceding month and had opportunity to avail of the flu vaccine. On the day of the study the managers were given a Motivational Lecture^{2,3} including scientific evidence linking the flu illness to heart attacks and strokes^{4,5}. The benefits of the vaccine in preventing heart attacks & strokes^{4,5} and the consequences to their personal and professional life³

The effectiveness of the Motivational Educational Lecture was analysed using a before and after questionnaire followed by an invitation to attend a lunch time immunisation clinic to test change in behaviour.

Results

Significantly increased shift to positive attitude regarding vaccination was evident when the before & after questionnaires were analysed. The number vaccinated for the 2015/2016 flu season increased from 2/18 to 13/18. Five staff were vaccinated for the first time, this is changed behaviour.

Conclusion

A motivational lecture with key elements (new information, imagery, persuasive narrative, building motivation with positive and negative themes^{2,3,4,5}) can result in changed behaviour. The flu vaccine uptake increased from 27.78% in the 2014/2015 season to 72.22% in the 2015/2016 season in the study group.

References

1. Why flu vaccination is important for health care workers (HCWs)
<https://www.hse.ie/eng/health/.../fluvaccine/.../importanceoffluhcws.pdf>
2. Dr. Clayton E. Tucker-Ladd
Methods for changing behaviours - Psychological self-help: Chapters 11 & 14
3. Ito, T. A., Larsen, J. T., Smith, N. K., & Cacioppo, J. T. (1998). Negative information weighs more heavily on the brain: The negativity bias in evaluative categorizations. *Journal of Personality and Social Psychology*, 75(4), 887–900.
4. Udell J Zawi R, Bhatt D, Keshtkar-Jahromi M, Gaughran F, Phrommintikul A, Ciszewski A, Vakili H, Hoffman E, Forkouh M, Cannon C, 2013 'Association between Influenza vaccination and Cardiovascular outcomes in High risk patients A meta-analysis' *JAMA* 310 (16): 1711-1720
5. Nichol KL, Nordin J, Mullooly J, et al. 2003 'Influenza vaccination and reduction in hospitalizations for cardiac disease and stroke among the elderly', *N Engl J Med*, 348:1322-32

Seasonal changes in anthropometric characteristics and injury risk in a Senior Inter -county Gaelic panel between 2013 and 2016

Meabh Holmes², Bernie McGowan¹, Sarah McDonald¹, Jane Reodica¹, Claire Smyth⁴, Therese Devaney⁴, Catherine Blake³, Mark Roe³, Pdraig McGourty², Bryan Whelan^{1,5}, Carmel Silke¹

1. The North Western Rheumatology Unit, Our Lady's Hospital, Manorhamilton, Co Leitrim; 2. Dept. of Life Sciences, Sligo IT; 3. Institute for Sport and Health, School of Public Health, Physiotherapy & Population Science, UCD; 4. Physiotherapy and Sports Injury Clinic, Sligo; 5. Dept of Medicine, NUIG

Introduction

Ensuring that senior inter county gaelic players reach optimum physical condition while remaining injury-free throughout the competitive playing season is critical to team performance and results. Optimal body composition and in particular increases in lean mass have been associated with increases in players' speed, strength and agility in certain sporting groups and these changes have also been correlated with a decline in injury occurrence over a competitive playing season.

Aims and Objectives

To monitor trends in body composition changes and injury occurrence in a senior inter county gaelic team over a three-year period from 2013-2016.

Methodology

A repeated measure, prospective longitudinal study over three competitive playing seasons was performed on a senior inter county gaelic men's team between 2013 and 2016 (n=63). Body composition analysis was performed using dual X-ray absorptiometry (DXA) scan at the pre and mid-season stages of each playing season.. Injury data was routinely collected and recorded by team physiotherapists in The National GAA Injury database.

Results

In total there were 63 players included in the study, mean age 25.83 years (\pm SD 4.21). The number of injuries per player was 1.83 (SD \pm 1.41). Lean mass increased at pre-season from 67.2 kg (SD \pm 6.1) to 67.9kg (SD \pm 6.0) at mid-season a statistically significant increase of 0.67kg (95% CI: 0.25, 1.19) (t(62)=-3.166, p=0.002) The average lean mass of uninjured players at pre-season 71.14 kg(\pm SD 4.10) was significantly higher than the injured players 65.82 kg (\pm SD 6.18), (p=0.002). There was a moderate negative relationship between lean mass at pre-season and the number of injuries sustained (r=-0.299, p=0.017) with lean mass accounting for 8.9% of the variability in the number of injuries sustained.

Conclusions

Monitoring of body composition changes over the course of a playing season and identifying recommended values specific to elite gaelic players can provide valuable information for players and management in relation to players physiological response to training regimes and reduction in injury risk.

Monotherapy is effective in inducing remission in an Early Rheumatoid Arthritis population using a T2T protocol

Azhar abbas¹, Noreen Harrington¹, Martin Mroue^{1,2}, Bernie McGowan^{1,3}, Carmel Silke¹, Bryan Whelan¹,

1. The North Western Rheumatology Unit, Our Lady's Hospital, Manorhamilton, Co Leitrim.

2. Department of Medicine, Nursing and Health Sciences, National University of Ireland Galway.

3. The Department of Pharmacology and Therapeutics, Trinity Centre for Health Sciences, St James's Hospital, Dublin 8

Introduction

Reaching the therapeutic target of remission or low-disease activity (LDA) has improved outcomes in patients with rheumatoid arthritis (RA) significantly (1,2).

Aims and Objectives

To compare the effectiveness of DMARD monotherapy and Combination therapy in an Early Rheumatoid Arthritis (ERA) population.

Methodology

From a total of 92 patient referred to the ANP led Early RA clinic, 48 patients who completed 12 months of follow up in the clinic were included in the analyses. Data was routinely collected and recorded prospectively on these patients at each clinic visit. A Treat to Target (T2T) protocol for management was adhered to. Clinical Disease Activity Index (CDAI) was used to assess response to treatment.

Results

In total 47 (98%) of the patients reached their target of either LDA (n=8) or remission (n=39). Furthermore, 27 (56%) of these patients reached their target on monotherapy. While not statistically significant (p 0.241), the mean CDAI in the monotherapy group was lower (CDAI= 2.07) than the mean CDAI of the combination therapy group (CDAI =3.00). The mean age of patients on monotherapy was higher (54.8 yrs) than the mean age of the combination therapy group (51.9 yrs) (p .546). In total 23.1% of the combination therapy patients were smokers and in the monotherapy group 26.7% were smokers (p.496). Erosion on Xray was identified in 45.8% of patients on monotherapy versus 54.2% on combination therapy.

Conclusion

The results of the present study identified that monotherapy is effective in achieving disease activity targets in a cohort of patients with ERA treated according to a T2T protocol at the NWRU. This is similar to the findings of previously published studies (1,2). While not statistically significant the trends showed that combination DMARDs were required more in younger patients, in patients with increased duration of symptoms before referral, along with patients with higher rates of erosion on xray at presentation.

References

- 1) Verschueren P, De Cock D, Corluy L, Joos R, et al. Effectiveness of methotrexate with step-down glucocorticoid remission induction (COBRA Slim) versus other intensive treatment strategies, Ann Rheum Dis. 2016 Jul 18
- 2) Xavier Teitsma et al, Predicting the Need for Additional Treatment in Early Rheumatoid Arthritis, 2015 ACR/ARHP Annual Meeting

Implementation of a Registered Advanced Nurse Practitioner (RANP) led Treat to Target (T2T) in early Rheumatoid Arthritis (RA) patients.

Noreen Harrington¹, Bernie McGowan^{1, 2}, Carmel Silke¹, Bryan Whelan^{1, 3}

1. The North Western Rheumatology Unit (NWRU), Our Lady's Hospital, Manorhamilton, Co Leitrim; 2. The Department of Pharmacology and Therapeutics, Trinity Centre for Health Sciences, St. James's Hospital, Dublin 8; 3. The Department of Medicine, NUIG

Introduction

Treat to target (T2T) is an international initiative endorsed by the European League against Rheumatism (EULAR) in 2010 and updated in 2015 (1). Rheumatoid arthritis (RA) patients should ultimately strive for disease remission with low disease activity (LDA) as an alternative goal within six months of diagnosis (1).

The RANP with prescriptive authority can escalate or combine DMARD medications as per agreed local protocol based on current guidelines from the European League against Rheumatism

Aim

The aim was to develop, implement, and evaluate the treat-to-target strategy aimed at achieving remission in newly diagnosed RA patients in an autonomous nurse led practice.

Methodology

Following consultant diagnoses of RA, patients were referred to the RANP for 12 month follow up from diagnosis. Ongoing data collection includes patient demographics, disease history, management & outcomes at each visit. Disease activity was assessed using clinical disease activity index (CDAI) and Functional limitations assessed using Health assessment questionnaire (HAQ-DI).

Results: A total of 105 patients with a diagnosis of RA were referred to the RANP. 13 patients were excluded from the analysis (4 choose private consultant follow-up, 7 had diagnosis reclassified/ outside nurse scope/ required medical management and 2 patients died). A total of 48 pts have completed 12 months follow up. The mean CDAI was 2.49 and the mean HAQ was 0.32. There were 40 (83%) patients in clinical remission. A further 7 (15%) achieved LDA. Medications prescribed to achieve final target were as follows: methotrexate monotherapy n=21 (44%), Methotrexate +HCQ n=8 (17%), MTX + SZP 3(6%). SZP monotherapy 4(8%), 11 (23%) required biologic medication in combination with traditional DMARDs.

Conclusion: Initiation of this autonomous nurse led T2T has led to significant improvement outcomes for newly diagnosed RA patients at this unit. Achieving high rates of disease remission early in the course of the disease by titrating disease modifying medication under a collaborative practice agreement will prevent irreversible joint destruction and restore functional abilities. At 12 month follow up HAQ show significant improvement in function correlating with improved disease activity.

References

1. Smolen JS et al (2015). Annals of Rheumatic Diseases.; EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs:

Prevalence of co-morbidities in newly diagnosed Rheumatoid Arthritis (RA) patients followed up in a Registered Advanced Nurse practitioner (RANP) clinic.

Noreen Harrington¹, Bernie McGowan^{1,2}, Carmel Silke¹, Bryan Whelan^{1,3}

1. The North Western Rheumatology Unit (NWRU), Our Lady's Hospital, Manorhamilton, Co Leitrim; 2. The Department of Pharmacology and Therapeutics, Trinity Centre for Health Sciences, St. James's Hospital, Dublin 8; 3. The Department of Medicine, NUIG

Introduction

Co-morbidities reduce the life span of patients with RA(1). Among RA patients there is a high prevalence of cardiovascular events and risk factors for CVD such as tobacco smoking, obesity, hyperlipidaemia, hypertension, and diabetes (2). Osteoporosis related fractures are also more commonly observed in RA patients which significantly affect their long term prognosis for functional decline (3, 4). High incidences of depression and malignancies have been reported but prevalence varies between countries (5).

Aim

To evaluate the prevalence of co-morbidities among newly diagnosed RA patients.
To estimate detection of co-morbid risk factors and newly diagnosed co-morbidities during 12 month follow up in an RANP clinic.

Method

Following consultant diagnosis of new RA, patients were referred to the RANP for 12 month follow up. At initial assessment a history of co-morbidities from review of medical records or patient report was input into SPSS for analysis. Detection of new co-morbidities was added during subsequent clinic visits. Data on Demographics collected included: age, gender, body mass index (BMI), smoking status, lipademia (HDL, LDL), glucose and blood pressure. All patients had a DEXA scan to assess for osteoporosis and were screened for vitamin D deficiency.

Results

In total data on 92 patients (56% female) was included in the analyses, Mean age was 55yrs (sd +/- 15). The mean number of co-morbidities was 2.3. The most common co-morbidities identified were hypertension (28%), hypercholesterolemia (24%) anxiety/depression 17% and hypothyroidism (17%). Sub optimal bone density was detected in 41 pts (44%) with 29 (31%) osteopenic and 12 (13%) osteoporotic. A total of 48(53%) patients had Vitamin D deficiency (<30 nmol/L). Results from BMI calculations identified that 40 (43%) patients were overweight and 18 (19%) were obese. Furthermore 30(33%) of patients were current smokers.

Conclusion

There was a high prevalence of co morbidities and their risk factors detected in early RA patients. Implementing more nurse specialist clinics to address T2T in inflammatory arthritis would provide the ideal opportunity to address risk factors for co-morbidities as well as early detection and preventative screening.

References

1. Gabriel SE, Michaud K. Epidemiological studies in incidence, prevalence, mortality, and comorbidity of the rheumatic diseases. *Arthritis Res Ther* 2009;11:229.
- 2) Liao KP, Solomon DH. Traditional cardiovascular risk factors, inflammation and cardiovascular risk in rheumatoid arthritis. *Rheumatology (Oxford)* 2013;52:45–52.
- 3) Coulson KA, Reed G, Gilliam BE, et al. Factors influencing fracture risk, T score, and management of osteoporosis in patients with rheumatoid arthritis in the Consortium of Rheumatology Researchers of North America (CORRONA) registry. *Journal Clinical Rheumatology* 2009;15:155–60.
- 4) Gullick NJ, Scott DL. Co-morbidities in established rheumatoid arthritis. *Best Practice Research Clinical Rheumatology* 2011;25:469–83.
- 5) Dougados M, Soubrier M, et al. Prevalence of comorbidities in rheumatoid arthritis and evaluation of their monitoring: results of an international, cross-sectional study (COMORA). *Annals Rheumatic Disease* . 2014 Jan;73 (1):62-8..

Impact of classification systems (DSM-5, DSM-IV, CAM and DRS-R98) on outcomes of delirium

Dr Geraldine McCarthy, Dr. Leona Lally, Prof David Meagher*, Dr Siobhan Rooney, Dr Orla Murray, Dr Owen Mulligan, Dr Dimitrios Adamis

Sligo Mental health Services, * University of Limerick

Introduction

Previous studies showed that different classification systems lead to different case identification and rates of delirium. Until now no study has investigated the influence of different classification systems on the outcomes of delirium.

Aims & objectives

To determine the influence of DSM-5 criteria compared to DSM-IV on delirium outcomes (mortality, length of stay and institutionalisation) including DSM-III and DSM-III-R criteria by using the CAM and DRS-R98 as proxies.

Methodology

Prospective, longitudinal, observational study of elderly patients aged 70+ admitted to acute medical wards in Sligo University hospital. Each participant was assessed within 3 days of admission using the DSM-5, and DSM-IV criteria plus the DRS-R98, and CAM scales.

Results

200 patients [mean age 81.1 ± 6.5 ; 50% female]. Rates (prevalence and incidence) of delirium for each diagnostic method were: 20.5% (n = 41) for DSM-5; 22.5% (n=45) for DSM-IV; 18.5% (n =37) for DRS-R98 and 22.5%, (n =45) for CAM. The odds ratio for mortality with each diagnostic method respectively were: 3.37; 3.11; 2.42; 2.96. Breslow-Day test on Homogeneity of Odds Ratios was not significant $\chi^2 = 0.43$, df: 3, p= 0.93. Those identified with delirium using the DSM-IV, DRS-R98 and CAM were staying significantly longer in hospital compared to those without delirium but not with those identified by DSM-5 criteria. Regarding institutionalisation those identified with delirium using the DSM-5, DSM-IV, and CAM did not have any significant differences in terms of discharge destination compared to those without delirium but those identified with delirium using the DRS-R98 were more likely to be discharged to an institution ($z=2.12$, $p=0.03$)

Conclusion

Assuming a direct association between delirium and the examined outcomes (mortality, length of stay and destination after discharge) different classification systems for delirium identify populations with different outcomes

Attention Deficit Hyperactivity Disorder (ADHD) in Adults: Use of Eye-Tracker Device to Detect Attention Deficits

Unal, M.¹, O'Mahony, E.², Adamis, D.²

1. School of Medicine, National University of Ireland, Galway; 2. Department of Psychiatry, Sligo Mental Health Services, Sligo

Introduction

Adult patients with ADHD may go unrecognised due to various factors including lack of knowledge of its presentation in adult life and its existence with comorbid conditions. This can thus result in psychosocial and functional decline.

Aims & Objectives

This study aims to investigate the use of objective testing, with an eye-tracker device in the diagnosis of adult patients with ADHD.

Methodology

An ethically approved cross-sectional study was conducted between ADHD patients and normal controls in Sligo Leitrim Mental Health Services. Inclusion criteria included participants aged 18-65, minimum 5 years of education and literate in English. Exclusion criteria included participants with acromatopsia/visual impairments, amnesia and learning difficulties. Out-patients diagnosed with Conners' Adult ADHD scale (Group A, n=15) were matched for gender and age against controls (Group B, n=33). Participants completed four computer-based tasks while their eye movements were recorded. The tests included (i) Stroop Effect test¹, (ii) Stroop Effect test with visual aid, (iii) Perceptual Selectivity test² and (iv) Saccadic Interference. Data was collected with respect to accuracy(%) and response time(msec) for tests i-iii. For test iv, saccade count, average saccade amplitude and average fixation duration was collected. Data was analysed using parametric tests/non-parametric tests.

Results

Stroop test accuracy showed a statistically significant difference between group A and group B (Mann-Whitney U=153.000,p=0.004). Stroop response time also showed a statistically significant difference between the two groups (t=3.581,df:46,p=0.001). For test (ii), there was a significant difference for response time (t=2.326,df:46,p=0.024) but not for accuracy. For test (iii), the results were statistically significant for accuracy; (t=2.682,df:46,p=0.010) and for response time (t=3.531,df:46,p=0.001). There were no significant differences in the saccadic interference test.

Conclusion

Adults with ADHD have a longer response time and perform less accurately than controls. Thus, these data demonstrate that there is a use for objective tests (tests i-iii) in the diagnosis of adult ADHD.

References

1. Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 18(6), 643-662. doi:10.1037/h0054651
2. Theeuwes, J. (1992). Perceptual selectivity for color and form. *Perception & Psychophysics*, 51(6), 599-606. doi:10.3758/bf03211656

Staff perceptions of assistive technology in residential settings for people with intellectual disabilities

S., Pellegrini, K., Kerr, C., Stenson, & E., Gillan

Dept of Psychology, HSE Sligo/Leitrim

Introduction

Assistive Technology (AT) is a device or service that helps a person with their daily activities. AT provides a way for people with intellectual disabilities to overcome barriers to independence and self-determination¹.

Staff who work directly with service users would have the best experience regarding how well AT would work in their areas of work, and staff responses will provide an insight into the effectiveness of AT in settings for people with intellectual disabilities.

Aims & objectives

The aim of this study is to document the views of staff (that work in residential centres for people with intellectual disabilities) on AT. Various topics relating to AT will be investigated.

The objectives of the study are to have the experiences and opinions of staff on the use of AT in residential settings for people with intellectual disabilities.

Methodology

The current study will use a qualitative approach, and will collect data through focus groups. The transcripts will be analysed using thematic analysis. Thematic analysis was chosen to analyse the data collected because of its flexibility and depth in allowing for an exploration of participants' feelings and motivation².

Four focus groups were undertaken with 10 – 12 participants in each group. Inclusion criteria required that participants work in a centre for people with intellectual disabilities.

Results

Concepts that were explored in the study were staff understanding of what AT is, experiences of using AT in the workplace, benefits and barriers to using AT, and familiarity with video modelling.

Conclusion

Staff in the study mostly work with challenging behaviour, in a full-range of ID settings, from mild to profound.

Staff had a good understanding of what AT is, with personal devices and communication devices the two most cited examples. Staff illustrated a need for further training in AT, and that much of what they learn is through inter-colleague sharing as opposed to formal training. Some staff even sourced their own training privately at a personal cost. Many acknowledged their own lack of ability with technology. The largest barriers to using AT in the workplace include the over-reliance or incorrect use of AT, malfunction of technology and the cost involved.

References

- 1 Michael L. Wehmeyer, M., L. (1988). National Survey of the Use of Assistive Technology by Adults With Mental Retardation. *Mental Retardation*, 36, (1), 44 – 51.
- 2 Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2). pp. 77-101. ISSN 1478-0887 Available from: <http://eprints.uwe.ac.uk/11735>.

Proof of Principle of development of a Lateral Flow Immunoassay for detection Kidney Markers

Daly, Stephen (Department of Life Sciences IT Sligo), White, Aislinn (Department of Life Sciences IT Sligo), Foy, Jennifer (Department of Life Sciences IT Sligo), Tyrrell, Eadaoin (Department of Life Sciences IT Sligo), Williams, John (Pathology Laboratory, Sligo University Hospital).

Introduction

Acute kidney injury (AKI) is a life threatening disease which results in a fast decline in the state of the kidney's function. Early detection is crucial to improve patient prognosis. Current diagnostic methods utilise insensitive and non-specific biomarkers of AKI¹.

A number of new biomarkers have been identified for more accurate detection of AKI and proposed as potentially earlier and more specific identifiers of the disease. These include NGAL, KIM-1, and LFABP².

Within the new biomarkers evaluated, it would appear that urinary NGAL offers the greatest potential and overall diagnostic performance for AKI^{3,4}. Studies have shown that NGAL levels increase within a few minutes in urine and serum post-kidney injury.

Aims & objectives

The purpose of this study is proof of principle for development of a lateral flow immunoassay (LFIA) for detection of NGAL in urine samples.

Methodology

Step 1 involved the development of a control line for the LFIA. Colloidal carbon was used to create the detection signal. The control line was developed by immobilising biotinylated goat antibody onto nitrocellulose strips. A colloidal carbon-neutravidin conjugate was prepared and added to the strip. Different concentrations of biotinylated antibody (500µg/ml, 250µg/ml) and volumes of the neutravidin-carbon conjugate were evaluated for optimal development of the control line.

Results

A control line was successfully developed and optimised using the neutravidin-carbon conjugate and biotinylated goat IgG. The neutravidin-carbon conjugate was pipetted onto the nitrocellulose strips (containing the biotinylated goat IgG) in different quantities (1µl, 1.5µl, 2µl and 2.5µl) with sample running buffer. Over a time period of 10 – 15 minutes the neutravidin-carbon conjugate bound to the biotinylated goat IgG successfully forming a clear black line signal.

Conclusion

An effective control line was developed for the assay. This is the first step developing an LFIA for AKI detection. Next step in the assay is to develop a test line which will directly detect NGAL in a sandwich assay format.

References

1. National Clinical Guideline Centre. (2013) Acute Kidney Injury: Prevention, Detection and Management Up to the Point of Renal Replacement Therapy. 169 NICE Clinical Guidelines.
2. Simsek, A. Tugcu, V. and Tasci, AI. (2013) 'New Biomarkers for the Quick Detection of Acute Kidney Injury'. ISRN Nephrology, vol. 2013, Article ID 394582, 9 pages. doi:10.5402/2013/394582.
3. Soni, S. S., Cruz, D., Bobek, I., Chionh, C. Y., Nalesso, F., Lentini, P., De Cal, M., Corradi, V., Virzi, G. and Ronco, C. (2010) NGAL: a biomarker of acute kidney injury and other systemic conditions. International urology and nephrology, 42 (1), 141-150.
4. Devarajan, P. (2010) Neutrophil gelatinase-associated lipocalin: a promising biomarker for human acute kidney injury. Biomarkers in medicine, 4 (2), 265-280.

The prevention of amplicon contamination in a Loop Mediated Isothermal amplification based Group B Streptococcus Assay

Daly, Stephen (Department of Life Sciences IT Sligo), White, Aislinn (Department of Life Sciences IT Sligo), Segun, Ezekiel (Department of Life Sciences IT Sligo), Nolan, Jane (Hibergene Diagnostics, Sandyford, Dublin), Keating, Gary (Hibergene Diagnostics, Sandyford, Dublin),

Introduction

The purpose of this study was to prevent amplicon contamination in a Loop Mediated Isothermal Amplification (LAMP) Group B Streptococcus (GBS) assay. The LAMP technique is similar to the Polymerase Chain Reaction (PCR) method, in that it is used for the amplification and detection of DNA. The LAMP assay is highly specific compared to PCR, meaning there is less risk false negative results. But with the extremely high amplification power, the LAMP technique still has the possibility of producing a false positive result, due to the presence of previously amplified DNA (amplicon)¹.

Aims & objectives

To determine if Uracil-N-glycosylase (UNG) can be used as an effective method of preventing amplicon contamination in a LAMP based GBS assay.

Methodology

To prevent a false positive result i.e. contamination, the enzyme Uracil-N-glycosylase (UNG) is incorporated into the assay to determine if it could effectively degrade amplicon material. In the GBS assay process, Deoxythymidine triphosphate (dTTP) was replaced with Deoxyuridine Triphosphate (dUTP) that had UNG incorporated into it to cleave any amplicons present. UNG was incorporated as dUTP contains uracil base that UNG acts upon.

Results

It was determined the addition of UNG was effective in degrading amplicon DNA. It resulted in both 100% detection of GBS and no detection of the negative control samples. Sensitivity and specificity are important performance parameters of this assay.

Conclusion

The results of this study conclude, that incorporating dUTP-UNG into the LAMP based assay, successfully prevented amplicon based contamination. Therefore, this method can prevent the production of false positive results due to the presence of amplicon DNA. With these positive results, further study can be carried out to optimise the assay formulation and improve amplification times of the GBS sample.

1. Steven B Kleiboeker. (2005). Quantitative assessment of the effect of uracil-DNA glycosylase on amplicon DNA degradation and RNA amplification in reverse transcription-PCR. *Virology Journal*. 2 (29), 1-8.

Plasma N-glycans in colorectal cancer risk

Margaret Doherty^{1,2,,}, Evropi Theodoratou^{3,4,,}, Ian Walsh^{1,,}, Harry Campbell^{3,4,}, Pauline Rudd¹

¹ National Institute for Bioprocessing Research & Training, Dublin, Ireland

² Institute of Technology Sligo, Department of Life Sciences, Sligo, Ireland

³ Centre for Global Health Research, Usher Institute for Population Health Sciences and Informatics, University of Edinburgh, Edinburgh, UK

⁴ Colon Cancer Genetics Group, Institute of Genetics and Molecular Medicine, University of Edinburgh and Medical Research Council Human Genetics Unit, Edinburgh, UK

Introduction

Glycosylation is a highly prevalent and structurally diverse post translational modification which not only dictates the biological activity of proteins but influences cellular proliferation, inflammatory processes and metastasis (1,2). Aberrant glycosylation has been associated with a number of diseases including cancer. In a given physiological state, glycoform populations are reproducible; therefore, disease-associated alterations may provide diagnostic biomarkers.

Aims & objectives

N-glycome biomarkers related to the pathogenic progress of the disease would be a considerable asset in a clinical setting and it could enable novel therapeutics to be developed to target the disease in patients at risk of progression. Our aim was to elucidate changes in whole plasma N-glycosylation between colorectal cancer (CRC) cases and controls.

Methodology

Glycan characterization from the plasma N-glycome was carried out using UPLC-HILIC technology. A set of 633 CRC patients and 478 age and gender matched controls was analysed. A predictive model was built using simple classification algorithms, which were evaluated using ten-fold cross validation. Moreover, N-glycan analysis was carried out in plasma of 40 patients collected prior to the initial diagnosis of CRC.

Results

We observed statistically significant differences in the plasma N-glycome of the CRC cohort. These included an increase in heavily branched, galactosylated and highly sialylated glycans and a highly significant decrease was observed in relation to the core fucosylated bi-antennary glycan F(6)A2G2 ($p=2.00E-16$). There were indications that at risk groups could be identified from the glycome (retrospective AUC=0.78 and prospective AUC=0.65).

Conclusion

This large-scale glycan analysis, with correlation to risk of disease, enables us to work towards a diagnostic biomarker for CRC. Given the good discriminative power of the models shown here, glycan data in conjunction with other biomarkers/risk factors warrant further investigation in future studies, in assessing and advancing models to achieve patient stratification of associated risk and to facilitate targeted CRC screening.

References

1. Marth JD, Grewal PK. Mammalian glycosylation in immunity. *Nat Rev Immunol*2008;8:874–87.
2. Pezer M, Rudan I, Campbell H. Mechanisms of disease: The human N-glycome. *Biochim Biophys Acta - Gen Subj.* 2016;1860:1574–82.

Investigation of Methods for the Analysis of Trace Metals in Urine Samples

Éadaoin Tyrrell, Catriona Reilly, Stephen Yorke, Sharon Barrett and Stephen Daly

Department of Life Science, Institute of Technology Sligo

Introduction

Understanding the effects of trace elements on human health is a complex task. High concentrations of these elements can prove toxic, while lower concentrations can lead to various health conditions and disorders. Trace metal analysis of urine has proved to be an important tool in the determination of a patient's nutritional or environmental assessment, and could be used as a screening tool or in preventative health care^{1,2}.

Aims & objectives

The aim of this work was to investigate the use of chromatographic and spectroscopic based methods for the identification, analysis and quantification of trace metals in urine samples. These methods allow for sensitive and robust trace metal determinations.

Methodology

Spectroscopic methods, based on flame atomic absorption or emission techniques (single elemental analysis), and ion chromatography, based on cation exchange methods (multi-elemental analysis), were investigated for the detection of trace metals (including calcium, magnesium, sodium, potassium, nickel, copper, cobalt and lead). A validation study was also carried out to evaluate the optimised methods prior to sample analysis. Validation parameters including the range, linearity, reproducibility, limit of detection (LOD) and limit of quantification (LOQ) were investigated during this study.

Results

The methods were successfully developed and validated for a number of common trace metals, including calcium, magnesium, sodium, potassium, nickel, copper, cobalt and lead. Detection limits of between 1.0 and 8.8 µg/L were obtained for the optimised chromatographic method, with analysis run time of < 25 minutes (multi element analysis), while sub mg/L detection limits were obtained using the spectroscopic techniques, with run times of < 2 minutes (single element analysis). Following optimisation and validation of both methods, a standard calibration study was carried for each method to allow quantitative analysis of the samples. Synthetic urine samples (of known composition) were analysed to further validate the accuracy of the methods and to ensure no adverse system effects were occurring due to the complex matrix under investigation.

Conclusion

Analytical methods based on atomic absorption and emission spectroscopy and ion chromatography have been optimised and validated for trace metal determinations and have been successfully applied to synthetic urine samples. It is envisaged that these methods may be suitable/applicable for diagnostic purposes and also for effective nutritional monitoring.

References

1. Labtestsonline.org, (2015) Trace Minerals: Test Sample [online] available at: <https://labtestsonline.org/understanding/analytes/trace-minerals/tab/sample/> [accessed 29 Sept 2016]
2. Chaumont, A., Nickmilder, M., Dumont, X., Lundh, X., Skerfving, S., Bernard, A., (2012) Toxicology Letters, 210 (3) p. 345-352.

Evaluation of treating cases of developmental dysplasia of the hip presented at the walking age with closed reduction with or without adductor tenotomy.

Dr Osama Hassan Elghobashy

Orthopedic Department . Sligo University Hospital

Introduction

Developmental dysplasia of the hip is the preferred term to describe the condition in which the femoral head has an abnormal relationship to the acetabulum. ⁽¹⁾

The goal of orthopaedic management is to identify dysplasia at the earliest possible time and to apply treatment methods designed to normalize the hip, which includes treatment with a Pavlik harness or other device. ⁽²⁾

Aims & objectives

In this work, we tried to study the outcomes for children with late-presenting developmental dysplasia of the hip who were managed non-operatively with a closed reduction method. The purposes of the study were (1) to describe our technique, (2) to determine whether this modified method successfully reduced the hip and maintained the reduction, (3) to evaluate the prevalence of osteonecrosis of the femoral head and identify risk factors for it, and (4) to identify any residual subluxation or dysplasia of the hip.

Methodology

This prospective study was based on twenty patients who were diagnosed as cases of developmental dysplasia of the hip and were treated accordingly in the period between October 2012 and April 2015.

* Inclusion criteria: Children that missed the initial diagnosis after birth and presented around nine months up to three years were included in this study. All patients did not receive prior treatment such as Pavlik harness or splints.* Exclusion criteria: Patients with neurological, septic, traumatic dislocation were not included in our study.

The mean follow up period for the twenty patients was 21 months (18-24 months). All patients included in this study were between 9 and 36 months (mean age 18.3 months), there were eighteen females and two males. Patients were divided into two groups according to their age, between 9-18 months and from 19-36 months (table 8). The first group had 9 patients (14 hips) while the second had 11 patients (15 hips).

Results

In the 1st group, 2 patients (2 hips) had failed closed reduction during the follow up period (14.3%) and this necessitated shift to open reduction, while in the 2nd group only one patient (bilateral DDH) had a similar failure (13.3%).

Conclusion

This series showed a success to maintain a satisfactory reduction without need for secondary procedures during the follow up period (18-24 months) in 86.2% of cases in both age groups. The rate of AVN was 13% and most of them were grade I with good prognosis.

Limitations of our study included lack of intraoperative arthrograms to review, relatively short follow-up period , and possible lack of statistical power to detect a difference (because of the small number of hips analysed for each treatment variable).

References

- 1- James J. McCarthy, Peter V. Scoles, G. Dean McEwen. Developmental dysplasia of the hip. *Current Orthopedics* (2005) 19, 223–230.
- 2- J. Sarkissian, Wudbhav N. Sankar, Keith Baldwin, and John M. Is there a predilection for breech infants to demonstrate spontaneous stabilization of DDH instability? *J Pediatr Orthop* 2014; 34:509–513.

Co-morbidity of ADHD in Adult Outpatient Mental Health Services in Sligo/Leitrim

Dr Naoimh Fox¹, Cynthia Watters², Dr Edmond O'Mahony³, Dr Donagh O'Neill, Dr Owen Mulligan³, Dr Sutha Murthy³, Dr Dimitrios Adamis³

1. Trainee Clinical Psychologist, 2. Assistant Psychologist, 3. Consultant Psychiatrists
Sligo Mental Health Services

Introduction

Attention Deficit-Hyperactivity Disorder (ADHD) is a mental disorder characterized by significant difficulties of inattention or hyperactivity and impulsiveness or a combination of them. It is estimated that between 2 to 5 percent of adults in general population continue to have symptoms of ADHD¹. Previous research has shown a high rate of undiagnosed or misdiagnosed ADHD in adult psychiatric services². In addition, research has shown a high co-morbidity with other mental illness³.

Aims & objectives

1. To investigate the co-morbid mental disorders with ADHD at the examined sample.
2. To estimate the rate of undiagnosed ADHD cases in adult outpatient mental health clinics.

Methodology

The research adopted a quantitative approach in the form of surveys and structured interviews. Participants who were attending outpatient clinics and had scored positive in both scales (Wender Utah Rating Scale and Adult ADHD Self-Report Scale) have been invited for a further assessment using the Conner's ADHD Diagnostic Interview for DSM-IV (CAADID) and Mini International Psychiatric Interview (MINI).

Results

Out of 98 approached, 26 participated and 23 have completed data. The mean age of the sample was 48 years and 15 (65.2%) were males.

All of the participants had at least one co-morbid mental disorder. A total of 18 participants were found to have at least one type of ADHD. Only 3 had been previously diagnosed with ADHD.

Conclusion

This study supports research in that many patients have undiagnosed ADHD and could therefore benefit from adjustments to their pharmacological treatments to improve overall symptoms and well-being. Perhaps specialist clinics are needed in order to establish, diagnose and improve patient outcomes.

References

1. Kooij S.J., Bejerot S., Blackwell A., et al. (2010). European consensus statement on diagnosis and treatment of adult ADHD: The European Network Adult ADHD. *BMC Psychiatry*. 10(1), 67, 1–24.
2. Rao & Place (2011). Prevalence of ADHD in Four general adult outpatient clinics in North East England, *Prog Neuro Psychi*, 15 (5), 7-10.
3. Kessler R.C., Adler L., Barkley R., et al. (2006). The prevalence and correlates of adult ADHD in the United States: results from the National Comorbidity Survey Replication. *Am J Psychiatry*. 163(4),716–723.

What is the impact of oral melatonin on seizure frequency in people with epilepsy?

Cara Conway

Neurology Department, SUH

Purpose:

To identify the impact of oral melatonin on seizure frequency in people with epilepsy.

Method:

Systematic review.

Background

Epilepsy is a chronic disease and the most common neurological disorder. The relationship between sleep and epilepsy has been noted for years. Sleep is a major trigger for seizures and in fact seizures themselves disrupt sleep structure, so a complex phenomenon is created. The hormone melatonin is naturally produced in your brain, exerting influence in the control of brain electrical activity. Traditionally melatonin is used to treat wake-sleep cycle disorders although an antiepileptic role has been suggested. As sleep is a major trigger for seizures the theory behind carrying out this review is that if sleep could be regularised seizure activity would improve.

Results

Following a systematic search of the literature, five studies were included within this review. Four out of the five studies provided data that could be combined to identify the percentage of people who experienced seizure frequency change while under the treatment of melatonin identifying a general decrease in although due to the small nature of the studies did not appear significant. The fifth study did however identify a reduction in seizure frequency on melatonin. Migraine was noted as an adverse event.

Conclusion

The treatment of epilepsy is complex and a key strategy of this treatment is to reduce possible triggers for seizures. This SR found that while melatonin does improve sleep latency as was the primary outcome of some of these studies included it also appears to have a positive effect on seizure reduction. In general melatonin appears to be a well tolerated drug.

A descriptive research study of the views of the public about their experience of using The Alzheimer Café

MO Donnell, Dr G. McCarthy, M.Cryan, L.Laird

Alzheimer Society of Ireland, Psychiatry of Old Age Sligo/Leitrim

Introduction

The rhetoric of the Alzheimer Café is deliberate to challenge negative stereotyping of dementia, and is suggestive of a pleasurable social get together ¹. The international concept of the Alzheimer Café acts as a platform to encourage support and help, provides a voice for the person with Dementia, educates and empowers, and also to reduce stigma. There are 13 Cafes in Ireland. There is a limited amount of literature available on these Cafés which is mainly descriptive in nature ².

Aims & objectives

The purpose of the study was to 1) describe the characteristics of the people attending Alzheimer Cafes, 2) ascertain their perspectives and experiences about using Alzheimer Cafes, 3) gain insight into the value and purpose of Alzheimer Cafes, and 4) ascertain their views about how the Alzheimer Café service could be enhanced.

Methodology

This was a descriptive study and the information that was generated is a mix of quantitative and qualitative data. Part 1 questionnaire data was analysed using descriptive statistics. In contrast, Part 2 questionnaire data was analysed using the six-stage approach to content analysis ³.

A convenience, opportunistic, non-probability sampling technique was utilised.

Results

40 questionnaires were distributed, with a response rate of 65%. Results were presented under two headings of demographics and key themes. People consider that the café service is a very user-friendly, comfortable and candid place. The reasons for choosing the café service included seeking information and peer support.

Conclusion

The public are positive and favourable about the service. The Alzheimer cafés are viewed as a safe, secure, friendly, comfortable community platform where people can meet and interact with other individuals living with dementia and their carers and discover new ways of coping. However more frequent Café meetings were suggested.

References

- 1.Cahill S., O Shea E., & Pierce M. (2012) Creating Excellence in Dementia Care. A Research Review for Ireland's National Dementia Strategy. DSIDC, Dublin.
- 2.Keogh, C., McGettrick G. (2008) Social Space: Equal Place.The Social Club Model of Dementia Care: A Research Report.The Alzheimer Society of Ireland.
- 3.Newell.R & Burnard.D. (2011) Research for evidence-based practice in healthcare.2nd Edition. Wiley-Blackwell.

Sarcopenia – How significant a problem is it in patients with newly diagnosed rheumatoid arthritis?

Keunjae Ahn¹, Bernie McGowan^{2,3}, Noreen Harrington², Sarah McDonald², Jane Reodica², Bryan Whelan^{2,4}, and Carmel Silke²

1. College of Medicine, Nursing and Health Sciences, School of Medicine, National University of Ireland Galway; 2. The North Western Rheumatology Unit, Our Lady's Hospital, Manorhamilton, Co Leitrim, Ireland; 3. The Department of Pharmacology and Therapeutics, Trinity Centre for Health Sciences, St. James's Hospital, Dublin 8; 4. The Department of Medicine, NUIG

Introduction

The European Working Group on Sarcopenia in Older People (EWGSOP) defines sarcopenia as a progressive and generalised loss of skeletal muscle mass and strength¹. Inflammatory cytokines, especially TNF- α , play a vital role in the pathogenesis of both rheumatoid arthritis (RA) and sarcopenia. Elevated IL-1 β and TNF- α levels increase patients' risk of sarcopenia in RA. Studies have shown increased incidence of sarcopenia in patients with RA.

Aims and Objectives

1) To identify and compare the incidence of sarcopenia in patients with newly diagnosed RA to the incidence in patients with established inflammatory arthritis (IA).

Methodology

Patients with newly diagnosed RA (N=81) attending the NWRU were invited to participate in a study analysing total body composition, muscle function and quality of life. In a separate database of patients with established IA (N=58), the incidence of sarcopenia was identified using the same EWGSOP criteria (1). Additional relevant information, such as age, weight, percentage tissue fat, and number of comorbidities, were noted. All data were analysed using SPSS version 22.0.

Results

In total, 14 (17.3%) males and 12 (14.8%) females in the newly diagnosed RA patient group were identified with sarcopenia based on the EWGSOP criteria. Within the established IA group, 5 (8.6%) males and 16 (27.6%) females were sarcopenic. There was no significant difference between the incidences of sarcopenia in patients with established IA being treated with and without biological therapy ($p=0.622$); however, a trend towards a lower incidence of sarcopenia in those on biologics was found. Pearson's correlation identified a significant positive correlation between weight and the SMI in females with newly diagnosed RA ($p=0.001$).

Conclusions

Substantial evidence suggests that sarcopenia is a reversible cause of disability, and that patients may benefit from interventions if implemented at the early stage. Therefore, prompt screening, assessment, and appropriate management is of the utmost importance.

References:

1. Cruz-Jentoft A, Baeyens J, Bauer J, et al. Sarcopenia: European consensus on definition and diagnosis: Report of the European Working Group on Sarcopenia in Older People. *Age and Ageing*. 2010; 39(4): 412–423. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2886201/>. Accessed May 25, 2016.

Delay in Diagnosis of Ankylosing Spondylitis and its effect on prognostic outcomes

Bernie McGowan¹, Orla Reynolds¹, Maria Lynch¹, Bryan Whelan^{1,2}, Carmel Silke¹.

1. The North Western Rheumatology Unit, Our Lady's Hospital, Manorhamilton, Co Leitrim
2. Department of Medicine, National University of Ireland, Galway.

Objectives

To evaluate the effect if any of delay from onset of symptoms to diagnosis of Ankylosing spondylitis on specific outcome measures in patients with ankylosing spondylitis (AS) attending the NWRU.

Materials and methods

In collaboration with the Ankylosing Spondylitis Registry of Ireland (ASRI) data on patients attending the NWRU with a diagnosis of AS was routinely recorded on the ASRI database and included in the study analyses. In total 102 patients (92 males (83.6%) and 10 females (9.1%), mean age 46.41 (± 13.3) were included. The main outcome variable (diagnostic delay) was defined as the interval between onset of first symptoms and diagnosis of AS and was divided into <5yrs and >5yrs. Functional status and disease activity were measured using the BASDAI, BASFI, ASQoL and HAQ scores. Spinal and hip mobility were assessed using the Tragus to wall, cervical rotation, chest expansion, schobers test and lumbar flexion measures..

Results

The average time from symptoms to diagnosis was 9.18yrs (± 9.68). Diagnostic delay between the 2 groups was not significantly correlated with BASDAI mean 4.01(± 2.46), ($p=0.449$), BASFI mean 3.92(± 2.75), ($p=.280$), ASQoL mean 6.29 (5.42), ($p=.467$), HAQ mean .605($\pm .606$) ($p=.716$). There was no significant correlation identified between delay in diagnosis between the groups and measures of mobility : Tragus-to-wall (cm) mean 19.70 (± 8.36), ($p=.539$), cervical rotation (deg) 45.62 (± 35.32), ($p=.981$), chest expansion (cm) 2.42 (± 1.50), ($p=.923$), schober test (cm) mean 3.28 (± 2.21), ($p=.634$) and lumbar side flexion (cm) mean 11.19 (± 9.17)($p=.677$). In total 76(74.5%) of patients were treated with biologics.

Conclusion

In our cohort surprisingly delay in diagnosis of AS was not significantly associated with measures of quality of life, functional status, disease activity in patients attending the NWRU.

Referral pathways in new onset neovascular age-related macular degeneration at Sligo University Hospital

Mongan, AM¹, Chetty, S¹., Mullaney, P¹., Quinn, S¹.

¹ Department of Ophthalmology, Sligo University Hospital

Introduction

Age-related macular degeneration (AMD) and its late phenotype neovascular AMD (nvAMD) are the commonest cause of severe visual impairment in older adults in the developed world¹. Permanent severe vision loss is almost inevitable if untreated. Treatment with intravitreal injections must be undertaken without delay, preferably within two weeks of development of symptoms or detection of a treatable lesion¹.

Aims & Objectives

To analyse eye care specialist referral patterns for patients with nvAMD.

Methodology

We conducted a prospective study on patients with a new diagnosis of nvAMD seen by the ophthalmology department over a four week period in June 2016. Demographic, clinical, and referral data were retrieved from our electronic patient record, and from clinical notes.

Results

Over the study period of four weeks, ten patients were diagnosed with nvAMD (three women, seven men, median age 80years). Four patients (40%) were referred by their GPs, three by their optometrists (30%), two by community ophthalmic physicians (COP), and one patient was attending our ophthalmic outpatient department (OPD) for monitoring of early AMD. Five (50%) were referred to the ophthalmology emergency walk-in clinic (ED), five (50%) were referred to the OPD. Patients reported altered vision for 26 weeks prior to presentation (range 1-52). Median time from referral until diagnosis with fundus fluorescein angiography (FFA) was 23 days (range 9-47). Median time from referral until treatment initiation was 35 days (range 23-99), and from presentation at hospital until treatment was 30 days (range 18-105). Patients referred to ED had a longer interval to diagnosis (44 compared to 16.5days, $p=0.05$), but there was no difference in treatment interval (median 41 compared to 29days, $p=0.39$). Referral source (GP, optometrist or COP) did not alter time to diagnosis or treatment.

Conclusion

The fragmented nature of ophthalmic services in the community results in people navigating many potential routes to tertiary care, decreasing the efficiency of healthcare delivery. Educating GPs and optometrists regarding signs and symptoms of nvAMD and the available referral pathways, is key in ensuring prompt referrals. A dedicated, streamlined fast-track clinic for referral of suspected nvAMD patients may reduce diagnostic and treatment delay.

1. Age-related macular degeneration: Guidelines for management. (September 2013) The Royal College of Ophthalmologists. Retrieved from <https://www.rcophth.ac.uk/standards-publications-research/clinical-guidelines/>

The Right Track? - An Audit of the Introduction of a Clinical Scaphoid Score in the Examination of Patients with Suspected Scaphoid Fractures in the Emergency Department of Sligo University Hospital.

Patrick Gallagher CNM1, Dr Karen Harris Consultant in Emergency Medicine

Emergency Department, Sligo University Hospital.

Introduction

This audit focused on the introduction of a three point clinical scaphoid score (CSS) in the examination of patients with suspected scaphoid fractures. The poster highlights the journey of patients referred for scaphoid x-rays in Sligo Emergency Department.

Aims & objectives

- To introduce the use of the CSS in patients with suspected scaphoid fractures.
- To document mechanism of injury of patients who had a fracture of the scaphoid bone.
- To identify any correlation between a high CSS and scaphoid fracture.
- To quantify the time patients who didn't have a fracture spent immobilised.
- To identify the number of review clinic appointments utilised for each patient.
- To identify the number of scaphoid MRIs completed.

Methodology

Educational sessions on the CSS took place. CSS information posters were also placed in clinical areas of Sligo Emergency Department. The audit was conducted from June to August (2016). It included patients (over eighteen) with suspected scaphoid fractures presenting to Sligo Emergency Department, identified using the radiology PAC system. Data was collected retrospectively from patients Emergency Department notes.

Results

The audit showed though clinicians were allowed to arrange follow up, or tests, at their own discretion, the focus on specific examination findings, through the introduction of the CSS, had a positive impact on the number of patients being brought back unnecessarily. There were also less MRIs performed. Both of these measures reduce costs to the department and the patients. There were no missed scaphoid fractures to the author's knowledge.

Conclusion

The introduction of a new assessment tool in a busy Emergency Department needs careful planning and consideration. The clinical scaphoid score is a useful tool in improving the quality of patient assessment with suspected scaphoid fractures.

References

Bergh, T.H., Lindau, T., Soldal, L.A., Bernardshaw, V., Behzadi, M., Steen, K. & Brudvik, C. (2014) Clinical scaphoid score (CSS) to identify scaphoid fracture with MRI in patients with normal x-ray after a wrist trauma. *Emergency Medical Journal*, 00:1–6, doi:10.1136/emered-2012-202219.

An uncommon mutation in mitochondrial encephalomyopathy, lactic acidosis and stroke-like episodes (MELAS)

Dr. J. Okiro, Dr. K. Murphy, Dr. J. David, Dr. M. Elamin

Dept of Neurology. Sligo University Hospital. Sligo. Co. Sligo. Ireland

Background

The advent of improved diagnostic techniques has led to a global increase in patients diagnosed with mitochondrial disorders. Patients with mitochondrial disorders still suffer from delays in diagnoses. General Physicians are often not familiar with these disorders. The diagnoses of mitochondrial diseases is challenging because of wide variations in phenotypic expression and variable penetrance. Over thirty mitochondrial DNA gene mutations have been reported to be associated with MELAS.

Presentation

A 26-year-old gentleman presented with seizures. This was preceded by a two-month history of headaches and vomiting. At the age of six he was diagnosed with myasthenia gravis and Asperger's syndrome when he was eighteen. His sister was born with dwarfism. She had a 'big head, swollen tummy, small limbs and a congenital heart. She died soon after birth. He has three other siblings, all well. Investigations included autoimmune encephalitis screen, CSF and blood viral serology, vasculitic screen, brain imaging and muscle biopsy to exclude mitochondrial diseases.

Outcome

He improved and was discharged. Three months post discharge he was admitted with vomiting refractory to anti-emetics. Multiple subsequent admissions were characterised by new changes on MRI. He subsequently presented with psychosis and suicidal ideations. Further DNA samples were sent for entire mitochondrial genome sequencing. This revealed MT-ND5 (13513G>A) mutation unequivocally consistent with MELAS.

Discussion

MELAS is a multisystem disorder with onset of clinical manifestations usually in childhood or early adulthood. The most frequent mutation associated with MELAS is m.3243A>G causing about 80% of cases. The frequency of this mutation in the general population is about 1:15,000. While the most frequently reported phenotype associated with the m.13513G>A gene mutation identified in our patient is Leigh's syndrome, the mutation has been reported in 10% of MELAS cases. Patients carrying the 13513G>A mutation (as opposed to the more common A3243G mutation) tend to present at a relatively later age and frequently have no family history.

Learning point

MELAS is caused by multiple pathogenic gene mutations which might not all be included in initial screening gene panels. In cases where there is a high index of suspicion whole mitochondrial genome sequencing should be considered.

Annual Antimicrobial Point Prevalence Surveys (PPS) in Sligo University Hospital: 2013 to 2016

M Regan, G Oates

Pharmacy Department SUH

Background

Hospital-wide antimicrobial PPS are conducted annually by the Pharmacy Department. Prior to the 2014 study a locum Consultant Microbiologist & Antimicrobial Pharmacist conducted intensive ward rounds and in 2015 a smart phone application with updated and extended antimicrobial guidelines was launched.

Aims & Objectives

To assess antimicrobial use prevalence, compliance with key quality prescribing indicators and impact of interventions.

Methodology

Key data collected on inpatients prescribed antimicrobials included: choice, route, indication, documentation of indication and compliance with guidelines.

Results

Annual number of patients surveyed: 253 (2013), 284 (2014), 267 (2015) and 259 (2016) with an antimicrobial prevalence of 40.7% (2013), 41.9% (2014), 39.3% (2015) and 42.4% (2016). Documentation of allergy status increased from 79.6% (2013) to 92% (2016).

The percentage of prescriptions accessible against guidelines increased from 76% (2013) to 92% (2016). There was an increase in compliance with guidelines from 57.9% (2013) to 87.5% (2014). In 2015 & 2016 compliance with guideline choice (75.6% & 79% respectively) and overall compliance with guidelines based on choice, route & dose (61.8% & 69% respectively).

No significant improvement in documentation of indication over four years (81-86%). Improvements noted in percentage of patients on parenteral therapy from 62.5% (2013) to 55% (2015), however a significant increase in 2016 (56.6%).

Conclusion

On average four in ten inpatients are prescribed antimicrobials in SUH and almost one in five patients do not have an indication documented. Varying compliance with key prescribing indicators has been noted with significant improvements in 2014 post extensive ward rounds. The introduction of a new smartphone application has resulted in increased compliance with key quality indicators in 2015 & 2016 in comparison to 2013 however significant improvements are still required.

Uterine Torsion in Pregnancy, a rarity in obstetric medicine, occurs twice in Sligo General Hospital

Dr Morgan Lyons, Dr Nirmala Kondaveeti

Dept of Obstetrics SUH

Introduction

The phenomenon and conundrum of uterine torsion is a rarity in obstetric medicine which many consultants with decades of experience would never have witnessed. Uterine torsion in pregnancy has only 200 documented cases in the last 100 years. Sligo General Hospital alone has had two such cases in the last 7 years which is truly remarkable. Torsion of the pregnant uterus is defined as rotation more than 45 degrees around the long axis of the uterus. It can be observed in all age groups of reproductive age, in all parity groups, and at all stages of pregnancy.

Case Report 1

(2009) – A patient of 33 weeks gestation, G2P1+0 was brought in by ambulance with sudden onset abdominal pain. On examination her BP was unrecordable, temp 35.5, irritable, sweaty, pale, clammy and feeble. Urinalysis 4+protein, B.M 19.4mmol/L, then 22mmol/L. Suspected eclampsia or diabetic acidosis. Patient resuscitated and transferred to ICU, US scan showed Intra-uterine fetal death. Emergency LSCS was performed. A couvalaire uterus was noted which was twisted (back to front). Caesarean section was done by incision through posterior uterine wall. Baby was delivered by breech extraction through posterior wall incision, had atonic PPH with EBL of 5000ml which responded to B-Lynch suture. She received 12 units of red cell concentrate, fresh frozen plasma-4, platelets-2 and fibrinogen-4g. Recovered well post-operatively and discharged home on Day 7. Patient was seen at GOPD 8wks and debriefed fully. The plan for her future pregnancy would be; in patient admission at 34 weeks and for elective delivery by CS at 37weeks.

Case Report 2

(2016) – A patient of 39 weeks gestation, G6P3+2(3 previous C sections) was brought by ambulance after collapsing at home. Patient became distressed with abdominal pain and PV bleeding. There was severe tenderness on right side of abdomen, pulse weak and thready; BP unrecordable. Resuscitation commenced by obstetric and anaesthetic teams. US scan showed no fetal heart. Vaginal exam showed cervix posterior, long and closed; presenting part not felt. The working diagnosis-rupture uterus or abruption and a decision was taken for emergency CS. Patient was resuscitated and transferred to theatre for emergency caesarean section. On laparotomy there was 180 degrees torsion of the uterus witnessed with posterior surface of the uterus becoming anterior. Attempts were made to untorsion the uterus but abandoned due to heavy bleeding. Incision made on the posterior wall and noted complete placental abruption. A stillborn baby delivered and the previous uterine scar noted to be intact on the anterior uterine wall. There was atonic PPH of 3000mls which required B-Lynch suture. She made a good recovery post-operatively in the ICU and later in the ward. Patient was discharged home on day 5 post operative period. Six weeks postnatal check up was normal and she was considering another pregnancy. Counselling regarding admission at 34 weeks and delivery around 37 weeks.

Discussion

This is an obstetric emergency with significant mortality (13%) and morbidity associated with uterine torsion. The aetiology includes intra-abdominal adhesions, previous abdominal trauma, ovarian pathologies, endometrial pathologies, previous caesarean sections and maternal irregular body movements. However in several cases no cause was found. The primary objective in management is to resuscitate the patient first followed by delivery of the baby. The risk of haemorrhage is increased and blood products should be available and given according to national and local guidelines. To have two uterine torsions occurring in a peripheral hospital in such a short space of time is truly unique.

Hyponatraemia associated atypical delirium

Dr. Eimear McGuire, Dr. Mythily Yohanathan, Dr. Leona Lally, Dr. Geraldine McCarthy,

Old Age Psychiatry, Sligo Leitrim Mental Health Service

Introduction

A 71 year old gentleman presented with two discrete episodes of delirium, with prominent psychotic features and catatonia, over a 3 year period. On both occasions, his sodium level was found to be low. During his first admission, he was also found to be suffering from anaemia secondary to an active upper GI bleed which was treated successfully medically. Symptomatically, he was suffering from fluctuating consciousness, paranoid ideation and both auditory and visual hallucinations. He went on to develop catatonia, demonstrating negativism and mutism and he also exhibited pseudoseizures. His symptoms resolved entirely after three weeks and he was discharged. He re-presented 3 years later with profound psychosis and hyponatraemia. On this occasion, he exhibited catalepsy, negativism, echolalia and mutism, which resolved when his sodium was corrected.

Objectives/Aims

To illustrate a case of catatonia associated with hyponatraemia in an otherwise healthy elderly gentleman.

Methods

This is a case study. Consent was sought from the patient to write up his case and distribute it for educational purposes. His medical inpatient notes, psychiatric inpatient notes, correspondence and bloods pertaining to both admissions were reviewed and analysed. A literature review was carried out using Pubmed to seek out similar cases.

Results

On review of his notes, it became clear that low sodium levels were a common factor in both of his admissions to hospital and that normal sodium levels were associated with a return to normal consciousness.

Conclusions

While medical issues confounded his first presentation, his second presentation was clearly related to hyponatraemia. Given the coincidence of hyponatraemia during his first admission, it would strongly suggest that low sodium levels were an important factor in this gentleman's presentation.

Stroke in the Intensive Care Unit in Sligo University Hospital

Orla Murray, Intern, Stoke Service, SUH, Una Moffat, Stroke CNS, SUH; Karl Milnes, ICCA Coordinator, ICU, SUH; Dr. Paula Hickey, Consultant Geriatrician, SUH

Introduction

Stroke is one of the leading causes of death and disability in Europe. Sligo University Hospital admits 200-250 patients annually with a diagnosis of acute stroke or TIA. As part of the National Stroke Programme, one of the KPI (Key Performance Indicators) is admission to an Acute Stroke Unit. On occasion, acute stroke patients are admitted to the ICU and we wished to explore this cohort's demographics, outcome measures and mortality.

Aims & objectives

A key objective of the comprehensive stroke service is the delivery of care on an Acute Stroke Unit. On occasion, acute stroke patients are admitted to the ICU and we wished to explore this cohort's demographics, outcome measures and mortality.

Methodology

This was a retrospective review of electronic patient records from the ICU dataset. All patients, over 18 years, admitted with a primary diagnosis of acute stroke (both Ischaemic and Haemorrhagic), were included.

Results

Over a 22 month period from December 2014 to September 2016, there were 38 admissions to SUH ICU with an acute cerebral event, 18 of these patients had a primary diagnosis of acute stroke. Average age 68 years (SD+/-11.5). Nine of these admission were ischaemic in nature (50%) and 9 haemorrhagic (50%). Of these 18 patients, 4 (22%) survived to be transferred out of ICU to ward level care. Two patients were transferred out of SUH ICU to a tertiary centre (11%). Average length of stay in ICU varied between the two groups. Patients with ischemic strokes were admitted to ICU for an average of 8.23 days (SD+/- 7). Those who survived stayed for an average of 11 days (SD=/-9). Haemorrhagic Stroke patients were admitted for an average of 2.2 days (SD=/-1.4).

Conclusion

Acute stroke is a common disabling illness in older adults. Strokes can be ischaemic or haemorrhagic, but the most common form is acute ischaemia, accounting for over 80%. In our study, the most severe strokes, were as likely to be haemorrhagic as ischaemic, and carried a mortality rate of 78%. As the next phase of our study we wish to explore, through qualitative research, the patient, carer and nursing experience of delivering care to a critically ill stroke patient in the ICU.

References

1. IRISH HEART FOUNDATION: COUNCIL FOR STROKE (MARCH 2010) National Clinical Guidelines and Recommendations for the Care of People with Stroke and Transient Ischaemic Attack

Are we there yet? A complete audit cycle leading to a change in practice

A. Al Maksoud¹, P. Harte², I. Ahmed¹.

¹ Department of surgery, Sligo University Hospital.

² Clinical audit support team, Sligo University Hospital.

Introduction

Consent is one of the most important aspects of clinical practice. Without a person's consent, any procedure or intervention is considered as an unlawful act.¹ A properly executed informed consent form should reflect the quality of the preceding consent process.^{1,2}

Aim

The objectives of this study were to audit the quality of consent documentation in surgical patients at Sligo University Hospital

Methods

100 consent forms were audited in June - July 2015 (cycle 1) and 73 forms in July-August 2016 (cycle 2).

Documentation was audited using a standardised form, which determined compliance with 20 standards.²⁻⁴

Based on the outcomes, interventions were planned and implemented. Interventions included staff teaching and introduction of a new consent form. A re-audit was undertaken to close the audit cycle.

Results

The overall compliance with the audited standards ranged between 60 to 82.5% in cycle one versus 75 to 100% in cycle two.

98.63% of audited forms in the re-audit scored more than 75% compliance compared to 28% in the first audit. 8% of forms in the re-audit showed 100% compliance.

The most significant improvements were in properly placed patient addressograph (83% to 100%), professional details of the doctor gaining the consent; job title documented in all cases compared to only 4%, and recording of medical council registration number increased from 0% to 93%.

Legibility had improved with 47.5% the doctors' signature being illegible versus 60% in the original audit. However, in the procedure section of the form the doctor's name was easily read in all cases compared to 83% in the first cycle of the audit.

Conclusion

Our results showed that low cost targeted interventions can significantly improve the quality of consent documentation. The introduction of an improved consent form that adheres to national quality standards has dramatically improved local standards in the consent documentation process.

References:

1- General Medical Council. Consent: Patients and Doctors Making Decisions Together. 2008. www.gmc-uk.org/guidance.

2-Guidelines for Consent to Clinical Examination and/or Treatment May 2009. HSE website

3-National Policy and Procedure for Safe Surgery July 2013.HSE website

4-Good medical practice in seeking informed consent to treatment .Irish Medical council website

Acute flank pain....stones not guilty. Spontaneous calyceal rupture caused by a metastatic prostate cancer

A. Al Maksoud¹, O. Clyne²

¹Department of surgery, Sligo University Hospital

² Department of urology, Sligo University Hospital

Background

The present case represents a rare first presentation of prostate cancer with spontaneous rupture of the renal pelvis.

Case presentation

A 57-year-old man presented with a 3 day history of right flank pain and urinary frequency. Physical examination was unremarkable apart from significant tenderness in the right flank and inguinal region. The initial computed tomography scan showed right –sided hydronephrosis and rupture of the right renal pelvis with extravasation and retroperitoneal lymphadenopathy, however there were no calculi. Subsequently, digital rectal examination showed enlarged prostate suggestive of prostate cancer

Investigations

The serum concentration of prostate specific antigen (PSA) was 157.2 ng/ml, and a prostate needle biopsy revealed high –grade prostate adenocarcinoma, with a Gleason score of 10 (5+5). Nephrostomy with ante grade ureteric stenting was performed on the right side. Staging CT of the thorax, abdomen and pelvis showed a large-volume retroperitoneal and pelvic lymphadenopathy with sclerotic bone metastasis

Treatment

Patient was started on hormonal therapy for his metastatic disease with a very good response on follow-up CT scan.

Outcome and follow-up

Lymphadenopathy has decreased in size and the appearances of the prostate, seminal vesicles and peri-rectal tissues have also significantly improved. At 4 months of follow-up, the PSA level had decreased to 1.2 ng/ml.

Discussion

Prostatic carcinoma is the second most common cancer in men worldwide. Patients with prostate cancer commonly presented with symptoms that included urinary complaints or retention, back pain, and hematuria.^{1,2} currently, with PSA screening, most prostate cancers are diagnosed at an asymptomatic stage. Rupture of the urinary collecting system with urine extravagation is an unusual occurrence typically caused by obstructing calculi. Other rare causes including malignant extrinsic ureteric compression have been reported in the literature.³ A few studies reported unusual presentations of metastatic prostate cancer mostly as sporadic cases.^{2,4}

Learning points/take home messages

- Spontaneous rupture of the renal pelvis is unusual and typically caused by obstructing calculi
- Prostatic carcinoma is the second most common cancer in men worldwide.
- Rupture of the renal pelvis is a rare first presentation of metastatic prostatic cancer

References

1. American Cancer Society. Cancer Facts & Figures 2016. Available at <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-047079.pdf>. Accessed: August 3, 2016.
2. Elabbady A and Kotb A. Unusual presentations of prostate cancer: A review and case reports. Arab Journal of Urology (2013) 11, 48–53 Gershman B, Kulkarni N, Sahani D, et al. Causes of renal forniceal rupture. BJU International 2011, 108; 1909 – 1912
3. Jallad S, Turo R, Kimuli M, et al. Ureteric stricture: an unusual presentation of metastatic prostate adenocarcinoma. Ann R Coll Surg Engl 2012; 94: e213–e214.

A case of Intra-articular Steroid induced Delirium in an Elderly Patient

Dr Leona Lally

Old Age Psychiatry

Introduction

Intra-articular administration of corticosteroids is a commonly used treatment for osteoarthritis as well as other inflammatory disorders of the joints. It is well known that delirium and psychosis can arise following the administration of oral steroids but there are few documented cases of the development of acute hyperactive delirium with psychosis following intra-articular administration of steroids. This is a case involving an 82 year old female patient who does not have a prior psychiatric history who developed a delirium with psychosis which responded well to a first generation antipsychotic. The patient received 80 mg of Methylprednisolone Acetate to her right knee for treatment of osteoarthritis. Within 4/7 she developed severe neuropsychiatric symptoms of delirium.

Aims & objectives

To highlight a rare case of severe hyperactive delirium with psychosis developing following administration of an intra-articular steroid injection to an elderly lady with co-morbid Dementia.

Methodology

Following resolution of symptoms written consent was obtained from the patient who was agreeable to the documentation of her illness and sharing of details of her case with medical colleagues via medical educational meetings and publications. A literature review was carried out and a case report was compiled. The patient's GP and Rheumatologist were contacted and they provided pertinent clinical information

Results

Following four days of regular Haloperidol the patient's symptoms began to improve and within seven days were completely resolved. Family reported a return to baseline personality and cognitive function. Sleep improved with full resolution of psychotic phenomena.

Conclusion

Corticosteroids are among the most widely used drugs in the world, being particularly effective at reducing inflammation. Corticosteroid induced psychosis refers to a wide range of symptomatology including mood disorders, cognitive deficits and acute psychosis¹. It is thought that patients receiving 40mg of prednisolone equivalent or more are at a higher risk of developing psychiatric symptoms². Caution should be taken when administering steroids to patients who are already at risk of developing Delirium as a result of their age and underlying cognitive status.

References

1. Warrington, T.P. and Bostwick, J.M. (2006). Psychiatric adverse effect of corticosteroids. *Mayo Clinic Proceedings*, 81(10):1361-1367.
2. Brown, E.S., Suppes, T., Khan, D.A., and Carmody, III. T.J. (2002). Mood changes during prednisone bursts in outpatients with asthma. *Journal of Clinical Psychopharmacology*, 22(1):55-61