

Abstracts

ULSTER SOCIETY OF INTERNAL MEDICINE 94th (Autumn) MEETING, Friday 30th October 2015



Ulster Hospital Dundonald

PROGRAMME:

- 2.00 pm **Evaluating 7-day re-admission rates in Antrim Area Hospital.**
Collins P, Trouton T, Riddell J.
Cardiology Department Antrim Area Hospital.
- 2.15 pm **Faecal Calprotectin in the Diagnosis and Monitoring of Inflammatory Bowel Disease**
Boyle S, McGoran J, Loughery C, Rafferty G
Department of Gastroenterology, Belfast City Hospital
- 2.30 pm **A Uterine presentation of Giant Cell Arteritis**
Stewart RGA, O'Neill AB, Benson CE.
Department of Rheumatology, Musgrave Park Hospital. Belfast.
- 2.45 pm **Guest Lecture: "The changing face of Meningococcal Meningitis in Northern Ireland."**
Prof. John Moore,
Consultant Microbiologist, Belfast HSC Trust.
- 3.15 pm **Afternoon Tea and Poster Viewing**
Refreshments sponsored by Actavis.
- Poster 1 **The Final Duty of Care.**
MP Toal, KM Cullen, Department of Respiratory Medicine,
Royal Victoria Hospital, Belfast, UK
- Poster 2 **Difficult thyroid function tests**
McNabb B, Trinick T, Duly E, McHenry CM
Depts of Endocrinology and Clinical Biochemistry, Ulster Hospital, Dundonald, Belfast
- Poster 3 **Prescribing and Monitoring of Electrolyte Supplements**
F McCann, A Deeny, T McNeilly
Craigavon Area Hospital, Southern Health Trust
- 3.40 pm **Grand Rounds: Cases from Ulster Hospital Dundonald.**
Facilitators: Dr Iain Gleadhill, Dr Tony Tham.
Presenters: Paul Brennan, Sarah Gordon and Philip Hall.
- 4.10 pm **Identical twins with atypical Muscular Dystrophy.**
P Devlin, C McQuillan, CM Wilson, A Muir.
Department of Cardiology, Belfast HSC Trust, Belfast, UK.
- 4.25 pm **Co-existing non-alcoholic fatty liver disease and type two diabetes**
A Kearney, J McGoran, AG Nugent,
Depts of Endocrinology and Gastroenterology, Belfast City Hospital, Belfast UK.
- 4.40 pm **Guest Lecture: "Atrial fibrillation for Physicians."**
Dr Nick Cromie, Consultant Cardiologist,
Royal Victoria Hospital, Belfast HSC Trust.
- 5.10 pm Presentation of prize for the best abstract.

2PM ORAL

Return to Sender: Evaluating 7-day re-admission rates in Antrim Area Hospital.

Collins P, Trouton T, Riddell J.

Cardiology Department, Antrim Area Hospital.

Between January 2014 and December 2014 the Cardiology Department in Antrim experienced a large number of 7-day readmissions, i.e., the number of patients who were discharged from the department and then readmitted from A&E within 7 days of their discharge.

Cardiology had the second highest figures within the hospital with 144 of 2780 patients. This number was also high in comparison with national rates, with the readmission percentage close to double the national lower quartile (4.2% vs. 2.2%).

In an attempt to identify reasons for potentially avoidable readmissions and suggestions for future improvements a retrospective audit of a sample (86 patients) was undertaken. The audit examined patient demographics, presenting complaints, length of stay, co-morbidities and eventual outcomes.

The audit showed that, of the original sample figure of 86

readmissions, only 43 were true readmissions for the same clinical problem (see table). The audit also identified a small cohort of 5 patients accounting for 26% of the readmissions. Patients who had a recent cardiac event were more likely to represent with benign symptoms e.g. troponin-negative chest pain or palpitations.

A re-audit is proposed following interventions which include Consultant coding on discharge and patient education on post-discharge symptoms and management.

215PM ORAL

Faecal Calprotectin in the Diagnosis and Monitoring of Inflammatory Bowel Disease

Boyle S, McGoran J, Loughery C, Turner G, Rafferty G

Department of Gastroenterology, Belfast City Hospital

Faecal calprotectin (FC) is a novel method for measuring gut inflammation which was conceived originally to distinguish between inflammatory bowel disease (IBD) and irritable bowel syndrome.¹ Its use has expanded as a surveillance tool in established IBD. Prudent requesting for this novel test is vital to ensure its sustainability.

We collected data on the first 150 FC results of 2014. Paediatric and private cases were excluded from the analysis.

108 patients were identified after exclusions were applied, 55 of which had known IBD. Three cut-off points were used in analysing the FC- <50µg/g, 50-199µg/g and >200µg/g. Of those not known to have IBD, 6/12 of patients who had calprotectin >200µg/g and 0/15 who had levels 50-199µg/g had evidence of inflammation on colonoscopy. (See Table) Among those with known IBD reviewed in clinic, 51.4%(18/35) of patients in the FC >200µg/g underwent a step-up in therapy compared to 23%(3/13) in the 50-199µg/g group. Twenty-five out of the 54 patients without known IBD had FC <50µg/g, with all such patients declared as not having IBD, only two of which actually undergoing colonoscopy to support this.

Our data corresponds with the literature in that that a FC level below 50µg/g can adequately exclude IBD. When applied as part of the entire approach to the care of those with a suspected or established diagnosis of IBD, FC can be a useful and cost-effective tool. FC levels exceeding 200µg/g when used appropriately can carry high positive predictive value for IBD and steer treatment in established disease.

FC Level (µg/g)	>200	50-199
Not known IBD	12	15
Proceed to Colonoscopy	8(66.7%)	6(40.0%)
New IBD Diagnosis Made	6(50.0%)	0(0%)

1. Dabritz J Musci J, Foell D. Diagnostic utility of faecal biomarkers in patients with irritable bowel syndrome. *World Journal of Gastroenterology*. 2014;20(2):363-75.

230PM ORAL

A Uterine presentation of Giant Cell Arteritis

Stewart RGA, O'Neill AB, Benson CE.

Department of Rheumatology, Musgrave Park Hospital, Belfast.

An 85 year old lady was referred to Rheumatology following a hysterectomy for Stage 1A endometrial adenocarcinoma having presented with post-menopausal bleeding. Uterine section also showed 'a prominent giant cell reaction in the media reminiscent of giant cell arteritis.'

At clinic the patient was well with no constitutional symptoms and no symptoms suggestive of vasculitis, in particular giant cell arteritis, or polymyalgia rheumatica.

Investigations showed anaemia of chronic disease, chronic kidney disease and ESR 78mmol/L. There was no proteinuria and urine microscopy was negative for red blood cells and casts.

A CTPET showed FDG uptake along the length of both vertebral arteries including intracranial segments.

A temporal artery biopsy was subsequently performed showing changes in keeping with temporal arteritis although giant cells were not seen.

This lady was started on a tapering dose of prednisolone with rapid normalisation of ESR. Repeat CTPET after 3months on steroids shows resolution of vascular changes with no convincing evidence of increased vertebral artery uptake.

Vasculitis of the genital tract is unusual although has been reported in the literature. 8.3% cases of gynaecological vasculitis were associated with endometrial cancer in one series¹. In systemic genital tract vasculitis giant cell arteritis appears to be the most common pathological finding¹. CTPET is a well-regarded tool in the evaluation of large vessel vasculitis and has also been reported in the evaluation of uterine giant cell arteritis². Use of CTPET should be strongly considered for the investigation of patients with an incidental finding of giant cells in pathology.

REFERENCES

1. Hernandez-Rodriguez J et al. Gynaecologic Vasculitis: An Analysis of 163 Patients. *Medicine*. 88(3):169-181, May 2009
2. Bajocchi G et al. Giant cell arteritis of the female genital tract associated with occult temporal arteritis and FDG-PET evidence of large vessel vasculitis. *Clinical and Experimental Rheumatology* 2007; 25 (suppl. 44): S36-S39

410PM ORAL

Identical twins with atypical Muscular Dystrophy.

P Devlin, C McQuillan, CM Wilson, A Muir.

Department of Cardiology, Belfast HSC Trust, Belfast, UK.

Emery-Dreifuss muscular dystrophy (EDMD) primarily

affects skeletal and cardiac muscle.¹ Clinical features are usually evident from childhood but progress relatively slowly in comparison to other muscular dystrophies.^{1,3} Involvement of the myocardium most commonly manifests with conduction disease and supraventricular arrhythmias. Atrial paralysis is a pathognomonic feature of EDMD.⁴ EDMD is one of the most common subtypes of muscular dystrophy. It has a genetic basis.⁶ In contrast to other muscular dystrophies, left ventricular systolic function is usually preserved in EDMD.¹⁰ Atrial dilatation and right heart impairment dominate.¹ There is loss of atrial myocardium and progressive replacement of the normal myocardium by adipose and fibrous tissue.¹¹ The resultant clinical and individual significance is an increased risk of sudden cardiac death.^{12,13}

In this case report, we describe a pair of identical male twins with the condition Emery Dreifuss Muscular Dystrophy, and their unusual clinical course. Conduction disease was apparent from their twenty's and managed with pacemaker devices. Tachyarrhythmia later necessitated device upgrade. But atypically, progressively severe LV impairment ensued. Genetic analysis was subsequently repeated and confirmed the original isolated diagnosis.

REFERENCES

- 1 Cardiac involvement in Emery Dreifuss muscular dystrophy: a case series. Buckley AE; Dean J; Mahy IR. *Heart*. **82(1)**:105-8, 1999 Jul.
- 2 Emery-Dreifuss muscular dystrophy and other related disorders. Emery AE. *British Medical Bulletin*. **45(3)**:772-87, 1989 Jul.

425PM ORAL

Co-existing nonalcoholic fatty liver disease and type two diabetes: A Retrospective review of management and outcomes

A Kearney, J McGoran, AG Nugent.

Depts of Endocrinology and Gastroenterology, Belfast City Hospital, Belfast UK.

Introduction: Nonalcoholic fatty liver disease (NAFLD) is the commonest cause of chronic liver disease worldwide.¹ It is strongly associated with type two diabetes and obesity. Treatment strategies include weight loss and managing insulin resistance. The effects of metformin on NAFLD are mixed but better results have been observed with thiazolidinediones and glucagon-like peptide-1 agonists (glp-1 agonists).² Cardiovascular disease and NAFLD are strongly associated. Rosuvastatin improves the biochemical and histological scores in NAFLD. We analysed the management of patients with type two diabetes and NAFLD,

Methods: A retrospective analysis of 46 patients with type two diabetes diagnosed with NAFLD between 2008 and 2013 in the Belfast Trust was performed. Data recorded included body mass index (BMI), glycated haemoglobin (HbA1c) and diabetic therapy. Outcomes measured included progression to cirrhosis, cardiovascular events and mortality.

Results: The average length of follow up was 44 months.

At diagnosis of NAFLD the average BMI and HbA1c was 33.8kg/m² and 67.9mmol/mol respectively. BMI averaged 34.5kg/m² and HbA1c 61.5mmol/mol at the end of our follow up period. Statins were prescribed in 54.3%. Metformin, thiazolidinediones and glp-1 agonists were prescribed in 33, 3 and 1 case respectively. 22 patients (47.8%) progressed to cirrhosis, of these 12 (54.5%) within one year of presentation with NAFLD. Cardiovascular events occurred in 13% and mortality in 19.6%.

Conclusion: Co-existing type two diabetes and NAFLD carries a high risk of morbidity and mortality with high rates of progression to cirrhosis observed. Aggressive management strategies including weight loss and addressing cardiovascular risk profile appears essential.

REFERENCES

- 1 Rinella ME. Nonalcoholic fatty liver disease: a systematic review. *Jama*. 2015;**313(22)**:2263-73.
- 2 Federico A, Zulli C, de Sio I, Del Prete A, Dallio M, Masarone M, et al. Focus on emerging drugs for the treatment of patients with non-alcoholic fatty liver disease. *World J Gastroenterol*. 2014;**20(45)**:16841-57.

POSTER 1

The Final Duty of Care.

MP Toal, KM Cullen,

Department of Respiratory Medicine, Royal Victoria Hospital, Belfast, UK

Objectives: The importance of accurate and thorough documentation is frequently cited as a crucial factor in improving the quality of healthcare delivery. Documentation after the death of patients is equally important for several reasons: this allows timely release of the body to the family, clarity of the cause of death between healthcare professionals and acts as evidence in the event of legal proceedings.

Methods: The notes of 15 patients who died in the RVH Respiratory unit under the care of a Respiratory medicine consultant over a period of one month were analysed. We designed and implemented a simple one-page checklist based upon NI Coroner's service and Belfast Trust guidance. Following this intervention, the notes of a further 15 patients with the same inclusion criteria were measured against this standard. Included in this checklist was a complete list of indications for discussing a case with the Coroner, for ease of reference.

Results: Following the implementation of a checklist, improvement was noted in several parameters. Documentation of time of death and clinical signs of death improved by 1 (7.1%) and 2 patients (16.7%) respectively. Documentation of cause of death on certificate improved from 6 to 10 patients (66.7%). Documentation of updating of the Morbidity and Mortality register improved from 3 to 10 patients (233%). Documentation of discussion with responsible Primary Care team improved from 2 to 10 patients (400%).

Conclusions: A simple checklist was able to yield a notable improvement in several aspects of documentation after death over a two-month period

POSTER 2

Difficult thyroid function tests (TFT)

McNabb B,¹ Trinick T,² Duly E,² McHenry CM¹

Department of Endocrinology and Diabetes¹ and Clinical Biochemistry², Ulster Hospital, South Eastern Health and Social Care Trust, Dundonald, Belfast

Thyroid function tests (TFT) are amongst the most commonly requested laboratory investigations. Interpretation is usually straightforward, confirming clinician's impressions regarding thyroid status. However, results may be discordant; either not in keeping with the clinical picture or incongruent with each other. It is important to consider confounding factors. Once excluded, laboratory artefact in commonly used TSH or thyroid hormone immunoassays should be screened for, avoiding unnecessary investigation. In the remainder, consideration should be given to rare disorders of the hypothalamic-pituitary-thyroid axis.

We studied clinical records of patients in whom TFT showed incongruent results (normal or elevated TSH with elevated Free T4 (FT4)) and whose samples were sent to Edinburgh Royal Infirmary (ERI) for analysis on a different immunoassay over 18 months.

Records of 16 patients were reviewed. The presenting incongruent TFT showed mean FT4 of 27.9 ± 7.3 pmol/L and TSH 2.7 ± 2.8 mU/L and were referred to ERI. Twelve of 16 (75%) patients had normal TFT (FT4 16.8 ± 7.3 pmol/L; TSH 1.8 ± 1.9 mU/L) when checked on their assay. Eleven were asymptomatic, one had classical thyrotoxic symptoms. Incongruent TFT were confirmed in the remaining four (thyroid hormone resistance, renal impairment with normalisation of TFT post-transplant, variable compliance of thyroxine replacement, declined investigation).

Where most TFT results fit with clinical assessment of thyroid status, a small subset of patients exhibit results that are discordant with the clinical picture or incongruent with each other. This study highlights when confounders are excluded, close liaison with clinical biochemists to exclude thyroid

hormone and TSH assay interference is essential. Only then should further investigation be performed.

POSTER 3

Prescribing and Monitoring of Electrolyte Supplements

F McCann, A Deeny, T McNeilly

Craigavon Area Hospital, Southern Health Trust

Kardexes were reviewed over one month, on 1 medical and 1 surgical ward, identifying 33 patients who had been prescribed electrolyte supplements. The laboratory system was used to assess the initial deficiency and subsequent monitoring while on replacement. Kardex prescriptions were reviewed to assess start/stop date and duration of supplementation. Current trust guidelines were used as the standard to assess appropriate use of electrolyte replacement.

Prescription of supplements in the 33 patients was as follows - Potassium (58%), magnesium (15%), Phosphate (27%). 6% of start dates and 55% of stop dates were not recorded on prescriptions. Duration of replacement ranged from 3-9 days. 55% of patients had supplements stopped by day 5. There was considerable variation in monitoring - 21% received daily monitoring while 24% had no record of monitoring. When compared to trust guidelines initial prescription was deemed unnecessary in 56% receiving phosphate supplements and 80% receiving magnesium where mild deficiency doesn't require replacement.

The audit highlights that current prescription of oral supplements in hospital is not in keeping with trust guidelines. It showed that there is room for education regarding prescription, duration of treatment and especially regarding monitoring of electrolytes in this group of patients.

This audit was presented to the surgical department with plans to present to the medical department in the near future. Implementation is in the form of education for staff working in the Southern Trust.

Impact to Patient/Client Care

1. Avoid unnecessary prescriptions for patients reducing risk of harm.
2. Appropriate blood monitoring to avoid over replacement.