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Abstracts

ULSTER SOCIETY OF INTERNAL MEDICINE
92nd (Autumn) MEETING
Friday 24th October 2014

Mater Hospital, Belfast

PROGRAMME:

2.00 pm **The genetic, clinical and MRI features of CADASIL in Northern Ireland.** McMacken G[1], McKenna E[2],McKee S[3], McConville J[4]**.** 1**.** Dept of Neurology RVH, 2. Dept of Genetics BCH and Depts of 3. Neurology and 4. Neuroradiology, UHD.

2.15 pm **Unexplained High Anion Gap Metabolic Acidosis? Consider Chronic Paracetamol Ingestion.** PF Gallagher[1], EV Hanna[2], F Tracey[3]. Depts of 1. Gen Med and 3. Older People's Care, Causeway Hospital, 2. Dept of Chemical Pathology, NHSCT.

2.30 pm **Aspirin reduces pulmonary inflammation in an inhaled lipopolysaccharide model of ARDS in healthy volunteers and in a human ex vivo lung perfusion model.** U Hamid, J Conlon, S Spence *et al*. Queen's University of Belfast

2.45 pm **Guest Lecture:** "NICE and pharma." **Professor Gary McVeigh, Professor of Cardiovascular Medicine, QUB.**

3.15 pm Afternoon Tea and Poster Viewing

Poster 1 **Intrathoracic extramedullary haemopoiesis in a patient with hereditary spherocytosis.** S Lawless, P Kettle. Department of Haematology, Belfast City Hospital, Belfast.

Poster 2 **HbA1c: a useful diabetes screening tool in acute coronary syndrome.** C McCune, S Maynard, B McClements, JR Lindsay, Departments of Cardiology and Endocrinology, Mater Hospital, Belfast

Poster 3 **Education and awareness of skin cancer risk in liver transplant patients.** V Campbell, J Cash, N McDougall. Regional Liver Unit, Royal Victoria Hospital, Belfast.

3.40 pm **Guest Lecture:** "Update on Dementia." **Professor Peter Passmore /Dr Bernadette McGuinness, QUB.**

4.10 pm **Grand Rounds:** Cases from Mater Hospital, Belfast.

Presenters: Dr A McSorley, Dr M Alkalil and Dr J Gray.

4.40 pm **Late Diagnosis of HIV in Northern Ireland.** Walker E, Todd SEJ, Rafferty P *et al*. Department of Genito-Urinary Medicine, Belfast HSC Trust, Belfast, UK.

4.55 pm **Thinking outside the box- an unusual presentation but not an uncommon diagnosis.** G Nicholson[1], E Campbell[2], I Rennie[3] *et al*.

[1.] Department of Stroke, [2.] Neurology and [3.] Neuroradiology, Belfast HSC Trust.

5.10 pm Presentation of prize for the best abstract.

2PM ORAL

The genetic, clinical and MRI features of CADASIL in Northern Ireland

McMacken G [1],McKenna E [2],McKee S [3], McConville J [4]

[1] Department of Neurology, Royal Victoria Hospital, Belfast, Northern Ireland

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ABSTRACT:

Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy (CADASIL) is the most common inherited cause of stroke and vascular dementia worldwide. It is caused by stereotyped mutations that alter the number of cysteine residues in the extracellular domain of Notch3, a transmembrane receptor critical for the maturation and function of small vessels.

We identified Notch3 mutation positive CADASIL patients

from the Northern Ireland genetics databases. We assessed MRIs where available and reviewed medical records.

21 gene positive patients were identified within this population. Two mutations accounted for 7/9 pedigrees (arg182cys and arg141cys). Mean age of diagnosis was 46 years (range 28-65 years). 10/21 patients had a known family history of CADASIL at time of genetic testing. 19/21 patients were symptomatic: migraine (61%); stroke (52%); TIA (43%); dementia (29%); mood disturbance (29%); seizures (14%).

MRI features were highly variable but showed striking similarities within families; some exhibiting changes considered classical of CADASIL and others demonstrating only non-specific white matter changes. One patient exhibited vasculitic type changes on MR angiogram.

This study demonstrates the wide variability in the phenotype and MRI features of CADASIL.

2.15PM ORAL

Unexplained High Anion Gap Metabolic Acidosis? Consider Chronic Paracetamol Ingestion.

PF Gallagher[1], EV Hanna[2], F Tracey.[3] Department of General Medicine, Causeway Hospital[1], Department of Chemical Pathology, NHSCT[2], Department of Older People's Care, Causeway Hospital.[3]

Paracetamol is one of the most frequently prescribed medications in the UK. We report the case of a 53 year-old lady who presented on two separate occasions with a high anion gap metabolic acidosis (HAGMA). At the time of her second presentation she was clinically septic secondary to pyelonephritis, had a reduced level of consciousness and was dehydrated with an acute kidney injury. The cause of the HAGMA (pH=7.031) was investigated and having excluded common causes of HAGMA, including lactic acidosis and ketoacidosis, we discovered that it was attributable to 5-oxoprolinaemia (pyroglutamic acidaemia) through urinary organic acid screening.

5-oxoprolianemia can be caused by glutathione depletion and the most common cause of 5-oxoprolinameia is repeated paracetamol use which we later discovered was a contributory factor in our patient.[1] Sepsis has also been found to deplete glutathione and can predispose to this condition also.[1-2] Acute kidney injury results in decreased excretion of 5-oxoproline and can lead to 5-oxoprolinaemia.[1-2] Diabetes mellitus, liver impairment and drugs which interfere with metabolism of 5-oxproline can also predispose to 5-oxoprolinaemia.[1-2] It has also been postulated that 5-oxoprolinameia may occur as a syndrome for which repeated chronic paracetamol use and reduced level of consciousness are principal features, both of which were present in our patient.[1]

In patients presenting with a HAGMA in which the common causes have been excluded, it has been suggested that 5-oxoprolinaemia should be considered as a cause and a urine sample should be sent to screen for urinary organic acids.[2]

Lawrence DT, Bechtel LK, Charlton NP, Holstege CP. 5-oxoproline-induced anion gap metabolic acidosis after an acute acetaminophen overdose. *The Journal of the American Osteopathic Association* 2010; 110: 545-551.

Verma R, Polsani K R, Wilt J, Loehrke ME. 5-oxoprolinuria as a cause of high anion gap metabolic acidosis. *British Journal of Clinical Pharmacology* 2011; 73: 489-491.

2.30PM ORAL

Abstract not for publication

4.40PM ORAL

Late Diagnosis of HIV in Northern Ireland

Walker E, Todd SEJ, Rafferty P, Donnelly CM, Emerson CR, Dinsmore WW, Quah SP, McCarty EJ, Department of Genito-Urinary Medicine, Belfast HSC Trust, Belfast, UK.

Late diagnosis of HIV remains a significant problem in Northern Ireland. We present a retrospective chart analysis of all new HIV diagnoses over a 1 year period (July 2013 - June 2014). Of 76 patients identified, 45 (59.2 %) patients had a late diagnosis, with CD4 T lymphocyte count below 0.35 x10^9/L; with 31 of these having CD4 count below 0.2 x10^9/L. Only 15 (20%) of these cases were diagnosed through GUM clinic attendance. The remainder were diagnosed in a range of other specialities, most commonly GI and acute medicine. Regarding acquisition, 48.9% were men having sex with men (MSM) and 46.7% heterosexual, with 6.7% IVDU. 71% of patients were from N. Ireland. Clinical indicator diseases were present in 84.4%, with the most common conditions being blood dyscrasias, weight loss and diarrhoea; 28.9% had pneumocystis jiroveci pneumonia. 56.8% had previous investigation for unexplained symptoms and signs, most commonly coeliac serology, autoimmune screen, OGD and colonoscopy. Three patients died, with 31 having prolonged inpatient stays.

The introduction of highly active anti-retroviral therapy has resulted in greatly improved prognosis, with normal life expectancy if diagnosed early. In contrast, late diagnosis carries significant morbidity and mortality. In 2008 British HIV Association (BHIVA) introduced HIV testing guidelines to prompt earlier diagnosis in other clinical settings. Our findings suggest late diagnosis of HIV still remains a significant problem in Northern Ireland.

4.55PM ORAL

Thinking outside the box- an unusual presentation but not an uncommon diagnosis.

G Nicholson[1], E Campbell[2], I Rennie[3], P Burns[3], M Watt[2], C Patterson[1] MI Wiggam[1].

Department of Stroke[1], Neurology[2], and Neuroradiology[3] Belfast HSC Trust, Northern Ireland

A 39 year old man presented with frontal headache to the emergency department. He gave a one week history of 'sore throat' for which he had received Amoxicillin. On initial assessment he was thought to have right sided tongue swelling, otherwise examination was unremarkable. A diagnosis of unilateral angioedema was entertained and an immunology opinion was sought. However repeat neurological examination revealed left sided tongue weakness with wasting. CT Brain and MR Brain (axial FLAIR and DWI) revealed no abnormality. MR angiogram confirmed a diagnosis of left internal carotid artery dissection. In retrospect he remembered being "elbowed" in the neck by his young son. He was transferred to the stroke unit and anticoagulated. Further vascular imaging with CT angiogram demonstrated bilateral carotid dissections with development of progressive pseudoaneurysms. He proceeded to stenting of his left internal carotid artery and he remains well at follow-up.

Carotid dissection commonly presents with headache and neck pain and is responsible for approximately 20% of strokes in younger patients[1]. Local pressure effects including cranial neuropathies are uncommon but can occur[1]. This case demonstrates an isolated extracranial hypoglossal cranial nerve palsy caused by local pressure effect from a carotid dissection. The hypoglossal nerve is susceptible to injury as it leaves skull base and runs along the groove between Internal Carotid Artery and Internal Jugular Vein. Diagnosis requires CT or MR angiography and management involves either antiplatelet therapy or anticoagulation. Careful follow-up is needed and some cases require neuroradiological intervention for complications such as progressive pseudoaneurysm[2].

Schievink, W. I., M.D. (2001). Spontaneous dissection of the carotid and vertebral arteries. *The New England Journal of Medicine, 344*(12), 898-906.

American College of Cardiology Foundation/American Heart Association Task Force. Guideline on the management of patients with extracranial carotid and vertebral artery disease: executive summary. JACC 2011; 57: 1002-1044

POSTER 1

Intrathoracic extramedullary haemopoiesis in a patient with hereditary spherocytosis.

S Lawless, P Kettle.

Department of Haematology, Belfast City Hospital, Belfast.

We present a case of extramedullary haemopoiesis presenting with an incidental intrathoracic paravertebral mass on MRI scan, in a patient previously undiagnosed with hereditary spherocytosis.

A previously well 71 year old gentleman undergoing a MRI pelvis to investigate prostatic symptoms was found to have an intrathoracic paravertebral mass. The spleen appeared bulky and the bone marrow signal appeared abnormal.

He had undergone a cholecystectomy 40 years ago. There was no significant family history.

On examination he was mildly icteric. There was no hepatosplenomegaly or lymphadenopathy.

Further investigations revealed a normocytic anaemia. His reticulocyte count and bilirubin were elevated at $291x10^9$/l and 37umol/L respectively.

His blood film revealed anisocytosis, polychromasia, frequent spherocytes and basophilic stippling.

His bone marrow biopsy revealed a hypercellular aspirate with erythroid hyperplasia and minor dyserythropoeitic features. Spherocytes were noted. EMA binding assay confirmed hereditary spherocytosis. The biopsy of his paravertebral mass revealed extramedullary haemopoiesis.

Extramedullary haemopoiesis is a rare finding. It may occur in hereditary spherocytosis as a compensatory response to insufficient bone marrow red cell production. Usual sites are the spleen, liver and lymph nodes. Intrathoracic extramedullary haemopoiesis is less common. It shows a male predominance and the median age of presentation in hereditary spherocytosis is 57 years, which reflects the prolonged haemopoietic stimulation needed for extramedullary haemopoiesis to develop.

We present images of the blood film, bone marrow and the intrathoracic mass along with MRI and CT images. The pathogenesis of extramedullary haemopoiesis and the management of hereditary spherocytosis are discussed.

POSTER 2

HbA1c: a useful diabetes screening tool in acute coronary syndrome

C McCune[1], S Maynard[1], B McClements[1], JR Lindsay[2],

Departments of Cardiology[1] and Endocrinology[2], Mater Hospital, Belfast

Diabetes is highly prevalent in individuals with acute coronary syndrome (ACS). Current NICE guidelines recommend diabetes screening of hyperglycaemic patients using a fasting plasma glucose after 4 days from admission. In 2012 the World Health Organisation (WHO) approved the use of HbA_{1c} in the diagnosis and targeted screening for type 2 diabetes. We introduced a service improvement project using HbA_{1c} for diabetes screening in non-diabetic patients admitted with ACS regardless of glycaemic state.

An initial retrospective audit utilised 21 months of data from the Myocardial Ischaemia National Audit Project (MINAP) database to identify patients meeting current NICE criteria for diabetes screening. A prospective service improvement project was undertaken over a 4 month period using HbA_{1c} as a universal screening test to categorise ACS patients based on WHO criteria.

The retrospective audit identified 93 of 420 (22%) patients with pre-existing diabetes and 8 of the remaining 327 (2.4%) were hyperglycaemic, thus meeting NICE criteria for diabetes screening. In the service improvement project 2/49 patients (4%) met NICE criteria for diabetes screening. Twenty six of these 49 patients had a HbA_{1c} test on admission and 17/26 (65.4%) were classified as probable diabetes or high risk.

A significant proportion of ACS patients have diabetes which may be undetected by current NICE criteria. Universal HbA_{1c} testing offers utility as a simple and effective screening test for diabetes in the ACS population.

POSTER 3

Education and awareness of skin cancer risk in liver transplant patients

V Campbell, J Cash, N McDougall

Regional Liver Unit, Royal Victoria Hospital, Belfast, UK

The risk of non-melanoma skin cancer (NMSC) is increased with immunosuppression therapy. Our aim was to assess how aware orthotopic liver transplant (OLT) patients remain of this increased risk following an education program.

All OLT patients received formal education regarding skincare at time of transplantation. Fifty-three patients (24 male, 29 female) completed a questionnaire which assessed awareness of NMSC risk.

The mean age of respondents was 54 (range 20-79). The mean interval from time of OLT until questionnaire completion was 6 years (range 1m-25yrs). Thirty-six were on Tacrolimus, two on Ciclosporin, two on Azathioprine, and thirteen on combination therapy. Thirty-five (66%) were aware of having been informed of the increased NMSC risk but four (8%) said they couldn't recall being informed and fourteen (26%) denied ever having been informed. Time from transplant was negatively associated with awareness of risk education. Twenty-eight (53%) said they had never received an information leaflet about their medication. Of the twenty-five who did remember receiving a leaflet, six did not read it. Only thirteen (24.5%) were aware of what skin changes to look out for. Eight patients were referred to Dermatology with a suspected skin cancer following attendance at the transplant clinic, three of which were subsequently diagnosed with NMSC. All were on Tacrolimus >10 years. Despite increasing awareness of NMSC risk in physicians, there remains a significant level of ignorance among patients.

We suggest implementing a skincare proforma to document patient education on a more frequent basis, particularly targeting patients on therapy >10 years.