

Agenda, Oral Communications and Poster Presentations



The 47th Annual Meeting of the Irish Endocrine Society
24th and 25th November 2023

Radisson Blu Hotel, Ballincar, Rosses Point, Sligo

	Novo Lecture (named in 2016 as the Hadden lecture)	Nordisk Lecture (named in 2016 as the McKenna Lecture)
1976	DK O'Donovan	
1977	S Bloom	
1978	J.H.S. Robertson	
1979	A.G.Cudworth	
1980	D.A.D. Montgomery	
1981	Peter Watkins	
1982	G. Joplin	
1983	D.R. London	
1984	A.X. Bertagna	
1985	Malcolm Natrass	Laurence Kennedy
1986	Brian Frier	JB Ferriss
1987	Maurice Scanlon	TJ McKenna
1988	D.A. Heath	AB Atkinson
1989	J Ward	GH Tomkin
1990	R. Volpe	KD Buchanan
1991	Michael Besser	PPA Smyth
1992	R.V. Ragontte	DH Hadden
1993	Bruce Weintraub	David Powell
1994	Oscar Croffard	Patrick Bell
1995	Robert Lindsay	Brian Sheridan
1996	C.R.W. Edwards	Rosemary Freaney
1997	Stephanie Amiel	David McCance
1998	Robert Turner	Randle Hayes
1999	Ian Hay	Sean K Cunningham
2000	Stephen O'Rahilly	Michael Cullen
2001	Andre Lacroix	Daphne Owens
2002	J. Tuomilehto	CJ Thompson
2003	Tony Weetman	John Nolan
2004	R.V. Thakker	RGR Firth
2005	P.M. Stewart	FPM O'Harte
2006	Kevin Docherty	CH Walsh
2007	Lynnette Nieman	Timothy O'Brien
2008	Ken Ho	Donal O'Shea
2009	Daniel J. Drucker	Steven Hunter
2010	Joseph G. Verbalis	James Gibney
2011	Thomas A. Buchanan	Maria Byrne
2012	Beverly M.K. Biller	Fidelma Dunne
2013	Mark McCarthy	Diarmuid Smith
2014	Karel Pacak	Sean F Dinneen
2015	European Society of Endocrinology meeting, Dublin	
	Hadden Lecture	McKenna Lecture
2016	David M. Nathan	Amar Agha
2017	Marta Korbonits	Aine McKillop
2018	Bernard Zinman	Paula O'Shea
2019	William B Drake	Mark Sherlock
2020	Helen Murphy	Donal O'Gorman
2021	Eberhard Nieschlag	Hilary Hoey
2022	Andrew Hattersley	Karen Mullan
2023	Gudmundur Johannsson	Francis Finucane

PRESIDENTS OF THE IRISH ENDOCRINE SOCIETY

YEAR	PRESIDENT
1976	DAD Montgomery
1978	DK O'Donovan
1980	MI Drury
1982	DJ O'Sullivan
1984	J Weaver
1986	J Devlin
1988	DR Hadden
1990	GM Tomkin
1992	AB Atkinson
1994	TJ Mc Kenna
1996	JB Ferriss
1998	JR Hayes
2000	J O'Donnell
2002	PPA Smyth
2004	B Sheridan
2006	PM Bell
2008	RGR Firth
2010	DJ O'Halloran
2012	T O'Brien
2015	F O'Harte
2018	BT Kinsley
2021	F Dunne

Committee Members 2022

President	Professor Fidelma Dunne
Secretary/Treasurer	Professor James Gibney
Basic Science.	Dr Paula O'Shea
Paediatrics	Professor Edna Roche
Leinster	Dr Pyeh Kyithar (term ends 2025)
Ulster	Dr Helen Wallace (term ends 2024)
Connacht	Dr Siobhan Bacon (term ends 2023)
Munster	Dr Matthew Murphy (term ends 2022)
Subgroups	Dr Orla Neylon

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Special thanks to Bord Failte for arranging transfers of guest speakers.

The provisional agenda for the meeting is as follows

Friday 24th November 2023

CPD credits = 5.0 hours

- 0800 Diabetes sub-committee meeting (Baymount suite)
- 0900 Trainees meeting / RCPI (Ballincar Suite)
- 0930 Meet the Professor session: Professor Gudmundur Johannsson and Professor Nils Krone
Chair: Professor James Gibney
- 1100 ICHMT / IOM / RCPI: NSD / trainers / trainee representative (Ballincar Suite)
- 1100 Trade exhibition/ Coffee/ Poster Hall

(Posters 1-10 and 22-51 will be displayed during this session)

- 1125 Formal meeting opening

Professor Fidelma Dunne (President). Personal Professor, School of Medicine, NUI Galway. Consultant Physician in Endocrinology, Saolta University Healthcare group. Director and PI, National Clinical Trial Network (CTN) Diabetes, Adjunct Professor, Steno Diabetes Research Centre, Odense Denmark.

- 1130 4 oral presentations (4 x 15 minutes) Chair: Dr Orla Neylon & Dr Clare O'Brien
- 1230 Paediatric Keynote Lecture: Professor Nils Krone, Professor of Paediatric Endocrinology, University of Sheffield.
- 1315 Trade exhibition / Lunch / Poster hall

(Posters 1-10 and 22-51 will be displayed during this session)

- 1500 4 oral presentations (4 x 15 minutes) Chair: Dr Pyeh Kyithar & Dr Milad Darrat
- 1600 6 invited case presentations (6 x 10 minutes) Chair: Professor James Gibney
- 1700 Hadden Lecture: Professor Gudmundur Johannsson, Salgrenska, Gothenburg
- 1800 Meeting break
- 1930 Drinks reception
- 2000 Gala dinner

Saturday 25th November 2023

CPD credits = 2.5 hours

- 0800 Annual General Meeting
- 0900 2 oral presentations (2 x 15 minutes) Chair: Dr Mark Hannon & Dr Mairead Crowley
- 0930 McKenna Lecture; Professor Francis Finucane, Personal Professor in medicine, NUI Galway. Consultant Physician in Endocrinology, Saolta University Healthcare group.
- 1015 Trade exhibition/Coffee/Poster Hall

(Posters 11-21 and 52-80 will be displayed during this session)

- 1045 4 oral presentations (4 x 15 minutes) Chair: Dr Helen Wallace & Dr Sarah Lawless
- 1145 Prize-giving
- 1155 Close of meeting

Friday 24th November 2023

Oral communications (10 minutes presentation / 5 minutes discussion)

- 1130-1145 OC1 Effects of specific neuropeptide Y4 receptor activation on pancreatic beta-cell function and appetite suppression.
Wuyun Zhu, Neil Taday, Aimee Coulter-Parkhill, Peter Flatt, Nigel Irwin.
Ulster University, Coleraine, United Kingdom
- 1145-1200 OC2 Development and testing of novel co-agonist peptides which activate both the GLP-1 and APJ receptors.
Finbarr PM O'Harte, Ethan Palmer, Sarah Craig & Irwin Nigel.
Ulster University, Coleraine, Northern Ireland.
- 1200-1215 OC3 Technology in Diabetes, does your address matter for Type 1 Diabetes care? A national patient survey.
Darren Rattigan¹, Katarzyna Gajewska², Kieran O'Leary², Hilary Hoey², Seamus Sreenan¹, Tomas Griffin³
¹Connolly Hospital Blanchardstown, Dublin, Ireland and The Royal College of Surgeons in Ireland University of Medicine and Health Sciences, ²Diabetes Ireland, Santry, Dublin, Ireland, ³University Hospital Limerick, Limerick, Ireland
- 1215-1230 OC4 Diabetes Remission Programme (DRP); A Northern Ireland (NI) Pilot.
Lara Jackson, Roy Harper
Ulster Hospital, Belfast, Northern Ireland
- 1500-1515 OC5 Once-daily oral administration of GPR120 agonist Compound A improves pancreatic islet and β -cell health through actions on the small intestine
Reece C. Corbett, Adeoluwa I. Owolabi, Peter R. Flatt, Aine M. McKillop
Ulster University, Coleraine, Northern Ireland
- 1515-1530 OC6 Exploring Glycaemic Variability Relationships and Patterns Using Rolling Window Time Series
Faizan Munawar¹, John Donovan¹, Etain Kiely², Konrad Mulrennan¹
¹Atlantic Technological University, Sligo, Ireland. ²Atlantic Technological University, Galway, Ireland.
- 1530-1545 OC7 Non-invasive volatilomic analysis of infected and non-infected diabetic foot ulcers – initial results from the SWAB study.
Shane Fitzgerald¹, Linda Holland¹, Eoghan O'Neill², Brid Cooney², Kellie Fortune², John H McDermott², Seamus Sreenan², Tommy Kyaw-Tun², Aoife Morrin¹

¹SFI Insight Centre for Data Analytics, National Centre for Sensor Research, School of Chemical Sciences, Dublin City University and School of Biotechnology, Dublin City University, ²Academic Department of Endocrinology and Microbiology, Connolly Hospital and RCSI

- 1545-1600 OC8 Early Metformin in Gestational Diabetes Mellitus - A randomised clinical trial (EMERGE).
Fidelma Dunne, Christine Newman, Alberto Alvarez-Iglesias, John Ferguson, Andrew Smyth, Marie Browne, Paula O'Shea, Professor Declan Devane, Professor Paddy Gillespie, Delia Bogdanet, Oratile Kgosidialwa, Aoife Egan, Yvonne Finn, Geraldine Gaffney, Aftab Khattak, Derek O'Keefe, Aaron Liew, Martin O'Donnell.
College of Medicine Nursing and Health Sciences, University of Galway and Saolta Hospital Group.
- Case report presentations (5 minutes presentation / 5 minutes discussion)*
- 1600-1610 CR1 MCM4 deficiency causing Natural Killer and Glucocorticoid Deficiency with DNA repair defect (AR-NKGCD); experience from the Irish Traveller Community
Claire Reynolds¹, Anna Fedorcak^{1,2}, Eric Somers¹, Sally Ann Lynch¹, Michael O'Grady³, Timothy Ronan Leahy¹, Susan M. O'Connell^{1,4}
1. Children's Health Ireland at Crumlin, Dublin, Ireland 2. Polish Mothers' Memorial Hospital, Research Institute, Lodz, Poland 3. Regional Hospital Mullingar, Mullingar, Co. Westmeath, Ireland 4. Department of Paediatrics, Royal College of Surgeons Ireland, Dublin, Ireland
- 1610-1620 CR2 Therapeutic plasma exchange as a bridge therapy to total thyroidectomy in treatment-resistant amiodarone-induced thyrotoxicosis
Michelle Maher¹, David J Tansey^{2,3}, Susan McKenna³, Jean O'Connell⁴, Rory McQuillan^{3,4}, Steven Frohlich³, Margaret Griffin^{3,5}, Jonathan Lyne³, Colm Magee¹, Carol Traynor¹, Amy Hudson¹, Amar Agha^{1,6}, Mark Sherlock^{1,6}, Carla Moran^{2,3,5}.
¹Beaumont Hospital, Dublin 9, Ireland; ²St Vincent's University Hospital, Dublin 4, Ireland; ³Beacon Hospital, Dublin 18, Ireland; ⁴Blackrock Clinic, Dublin, Ireland; ⁵UCD School of Medicine, University College Dublin, Dublin 4, Ireland; ⁶Royal College of Surgeons in Ireland (RCSI), University of Medicine and Health Sciences, Dublin, Ireland.
- 1620-1630 CR3 "Werner Syndrome Foot" – A Case Series of Four Irish Traveller Siblings with Werner Syndrome, Diabetes Mellitus and Complex Foot Disease
Aisling McGrath¹, Michael Lockhart (co-first authors)¹, Tomás Griffin¹, Sally Ann Lynch², Sean F. Dinneen¹
¹Centre for Endocrinology, Diabetes and Metabolism, Galway University Hospitals, Ireland ²Children's Health Ireland at Crumlin, Dublin, Ireland
- 1630-1640 CR4 Iopanoic acid for pre-operative preparation for total thyroidectomy in patients with thyrotoxicosis: a case series.
Christine Newman¹, Muhammed Saqlain¹, Isra Ahmed Mohammed¹, Daniel Bell¹, Nadia Schoenmakers², Carla Moran^{2,2}, Diana Wood¹, Krishna Chatterjee²

¹Cambridge University Hospitals NHS Foundation Trust, Cambridge, UK, ² Wellcome Trust-MRC Institute of Metabolic Science, University of Cambridge, Cambridge, UK, ³ Present Address: Beacon Hospital and School of Medicine, University College Dublin, Dublin, Ireland

1640-1650 CR5 Delayed puberty as a core feature of DNA polymerase epsilon (pole) deficiency – The Irish Experience
Claire Reynolds¹, Sally Ann Lynch¹, Colin P. Hawkes², Ronan Leahy¹, Mark Sherlock³, Susan M. O’Connell^{1,4}
1. Children’s Health Ireland at Crumlin, Dublin, Ireland 2. Department of Paediatrics and Child Health, Cork University Hospital, Ireland 3. Department of Endocrinology, Beaumont Hospital Dublin, Ireland 4. Department of Paediatrics, Royal College of Surgeons Ireland, Dublin, Ireland

1650-1700 CR6 Treatment resistant hyponatraemia due to SIADH
Sorcha O’Brien, Antonia Harold-Barry, Rory Plant, Mark J Hannon.
Department of Endocrinology, Bantry General Hospital, Cork, Ireland.

Saturday 25th November 2023

Oral communications (10 minutes presentation / 5 minutes discussion)

0900-0915 OC9 Living with diabetes in Ireland: findings from the Diabetes Ireland survey on experiencing, accessing and using diabetes health services by people with diabetes.
Katarzyna Gajewska¹, Kieran O’Leary¹, Tomás Griffin², Hilary Hoey¹, Seamus Sreenan³
¹Diabetes Ireland, Santry, Dublin, Ireland ²University Hospital Limerick, Limerick Ireland ³Connolly Hospital Blanchardstown and The Royal College of Surgeons Ireland University of Medicine and Health Sciences

0915-0930 OC10 Safety, tolerability and preliminary efficacy results of ORBCEL-M - a novel mesenchymal stromal cell therapy - in diabetic kidney disease: The multicenter, randomized, placebo-controlled, phase-1b/2a NEPHSTROM clinical trial
G. Remuzzi, M. Griffin, P. Cockwell, P. Maxwell, N. Perico, P. Ruggenenti, M. Inrona, A. Finnerty, J. Smythe, W. Fibbe, S. Elliman, T. O’Brien, for the NEPHSTROM Trial Consortium

1045-1100 OC11 Inpatient thyroid function testing and the pressing need for rational ordering
Turlough Heffernan¹, Yara Alkabi¹, Mairead Hanratty², Ingrid Borovickova², Colin Davenport², John H McDermott², Seamus Sreenan², Tommy Kyaw-Tun²
¹ Royal College of Surgeons in Ireland, ² Connolly Hospital Blanchardstown

- 1100-1115 OC12 Altered metabolism persists 10 years following metabolic complications in pregnancy – a secondary analysis of the ROLO longitudinal cohort study.
 Kristyn Dunlop¹, Catherine McNestry¹, Sophie Callanan¹, Anna Delahunt¹, Fionnuala M McAuliffe¹
¹ UCD Perinatal Research Centre, School of Medicine, University College Dublin, National Maternity Hospital, Dublin, Ireland
- 1115-1130 OC13 To Evaluate the Concordance between Calcium to Creatinine Clearance Ratio using Fasting Second Void Spot Urine Sample versus 24-hr Urine Collection in Patients being Investigated for Hypercalcaemia.
 Liam O’Murchadha¹, Mairead Crowley¹, Erum Rasheed², Stephen Ludgate¹, Vivion Crowley², Niamh Phelan¹, Lisa Owens¹, Marie Louise Healy¹, Agnieszka Pazderksa¹
¹ Department of Endocrinology, St James’s Hospital, Dublin 8, Ireland. ² Department of Chemical Pathology, St James’s Hospital, Dublin 8, Ireland.
- 1130-1145 OC14 Diagnostic Utility of ¹¹C-Methionine PET/CT in Primary Hyperparathyroidism for Localizing Parathyroid Adenomas in a Large UK Cohort: a Single-Center Experience and Literature Review.
 Kevin A Huynh¹, James MacFarlane¹, Christine Newman¹, Daniel Gillett^{1,2}, Tilak Das³, Heok Cheow², Penelope Moyle³, Olympia Koulouri¹, Andrew Powlson¹, Ben G Challis¹, Waiel A Bashari¹, Victoria Stokes¹, Liam Masterson⁴, Piyush Jani⁴, Brian Fish⁴, Mark Gurnell¹, Ruth T Casey¹
¹Cambridge Endocrine Molecular Imaging Group, Metabolic Research Laboratories, Wellcome–MRC Institute of Metabolic Science, University of Cambridge and National Institute for Health Research Cambridge Biomedical Research Centre, Addenbrooke’s Hospital, Cambridge Biomedical Campus, Cambridge, UK; ²Department of Nuclear Medicine, University of Cambridge and National Institute for Health Research Cambridge Biomedical Research Centre, Addenbrooke’s Hospital, Cambridge Biomedical Campus, Cambridge, UK; ³Department of Radiology, Cambridge University Hospitals, Cambridge, UK; ⁴Department of ENT/Head and Neck Surgery, Cambridge University Hospitals, Cambridge, UK.

POSTERS

CASE REPORT / CASE SERIES

(NB: Please note Posters 1-10 and 22-51 will be presented during the poster session on Friday 24th November 1330-1500. Posters 11-21 and 52-80 will be presented during the poster session on Saturday 25th November 1015-1100)

- P 1 Acute intermittent porphyria in a pregnant lady with hyponatraemia
 Rizwan Haq¹, Emma Murray², Paul Hamilton², Helen Wallace¹, Karen Mullan¹
¹Regional Centre for Endocrinology & Diabetes, Royal Victoria Hospital, Belfast, United Kingdom.
²Clinical Biochemistry, Royal Victoria Hospital, Belfast, United Kingdom
- P 2 Use of Metoclopramide to Induce Lactation in a Post-Partum Female with Panhypopituitarism
 Eibhlín Lonergan, Ashling Kennedy, Lok Yi Joyce Tan, Domhnall O’Halloran

Department of Endocrinology and Diabetes, Cork University Hospital, Cork, Ireland

- P 3 Eplerenone monotherapy in paediatric 11 beta-hydroxylase deficiency
Elaine C Kennedy^{1,2,3}, Eirin Carolan⁴, Maeve Durkan⁵, Maria Stack⁴, Colin P Hawkes^{1,2,3}
¹Department of Paediatrics and Child Health, Cork University Hospital, Cork, Ireland, ²Department of Paediatrics and Child Health, University College Cork, Cork, Ireland, ³INFANT Research Centre, University College Cork, Cork, Ireland, ⁴Children's Health Ireland at Temple Street, Dublin, Ireland, ⁵Bon Secours Hospital, Cork, Ireland
- P 4 Recurrent Thrombocytopaenia in Graves' Disease
Rayanna Maraj¹, Rachel Byrne¹, Liam O Murchadha¹, Marie- Louise Healy¹ and Niamh Phelan¹
¹Department of Endocrinology, St. James' Hospital, James' Street, Dublin.
- P 5 Diabetes Insipidus and Compressive Thyroid Enlargement in Adult Multi-Organ Langerhans Cell Histiocytosis.
Merah Al Busaidy, Robert P McEvoy, Michael O'Reilly, Dawn Swan, Amar Agha
Beaumont Hospital, Dublin
- P 6 The use of BRAF and MEK inhibitors in locally invasive papillary thyroid carcinoma
Robert P McEvoy, Liam Grogan, James P O'Neill, Clare Faul, Amar Agha
Beaumont Hospital, Dublin, Ireland
- P 7 Oestrogen Induced Hypertriglyceridemia and Acute Pancreatitis in a Transgender Female
Cliona L. Todd, Brian Carthy, Abdelwahab Suleiman
St. Vincent's University Hospital, Dublin, Ireland
- P 8 Novel FGFR1 Variant Associated with Delayed Puberty and Hypogonadotropic Hypogonadism.
Fatimah Alawami^{1,2}, Ciara McDonnell²
1 Department of Endocrinology, Tallaght University Hospital, Dublin, Ireland, 2 Department of Paediatric Diabetes and Endocrinology, Children's Health Ireland at Tallaght, Dublin, Ireland
- P 9 A case report of androgen excess secondary to a benign sex cord stromal tumour
Lauren Madden Doyle, Lisa Owens
St. James Hospital, Dublin
- P 10 Imaging and Histological Characteristics of an Acidophil Stem Cell Adenoma (ASCT) – A Rare Cause of a Locally Aggressive Pituitary Adenoma.

Julie Okiro¹, Ihtisham Malik¹, Aneel Vaswani¹, Donncha O'Brien¹, Peter Lacy¹, Abel Devadass¹, Mark Sherlock¹

¹Beaumont Hospital, Dublin

- P 11 Incidental Pituitary Macroprolactinoma on Technetium-99M MIBI SPECT
Sara Rebecca George, David Pinchas Yerushalmy, Eoin Martin, Audrey Melvin and Anne Marie Hannon
Department of Endocrinology, University Hospital Limerick, Limerick, Ireland
- P 12 Osmotic demyelination syndrome responsive to potassium replacement.
Rory Plant, Mark Hannon.
Department of Endocrinology, Bantry General Hospital, Cork, Ireland.
- P 13 Dapagliflozin for treatment of SIADH-induced hyponatraemia in an older patient with type 2 diabetes mellitus
Muhammad F Muhamad¹, Gina Dennehy¹, Aoife Garrahy¹, Anne McGowan¹.
¹Robert Graves Institute, Department of Endocrinology, Tallaght University Hospital, Dublin, Ireland
- P 14 Accessory renal artery – a potential etiology for high renin hypertension
Antonia Harold-Barry, Mark J Hannon
Department of Endocrinology, Bantry General Hospital, Bantry, Cork, Ireland
- P 15 A case of familial partial lipodystrophy due to a rare homozygous LMNA mutation.
Ciara De Buitléir; Christine Newman; Tomás Griffin; Paula O'Shea; Timothy O'Brien; Aaron Liew; Sean Dinneen.
Galway University Hospital, Galway, Ireland.
- P 16 A Case Series- Malignant Struma Ovarii
Kathryn Ryan, Mark McComiskey, Ian Harley, Steven Hunter,
Department of Endocrinology, Royal Victoria Hospital, Belfast
- P 17 Cabergoline induced impulse control disorders
Doua Ahmed, Una Graham, Claire McHenry
Regional Centre for Endocrinology and Diabetes, Royal Victoria Hospital, Belfast
- P 18 Multiple myeloma presenting as a non-functioning pituitary macroadenoma.
Ciara Kilcoyne¹, Audrey Melvin¹, Eoin Noctor^{1,2}
¹:Department of Endocrinology, University Hospital Limerick, Co. Limerick, ²: University of Limerick, Co. Limerick

- P 19 Rhabdomyolysis complicating the Hyperosmolar Hyperglycaemic State (HHS).
Susan Cameron, Halima Mshelia, Edel Nelson, Cliona Hurst and Audrey Melvin
University Hospital Limerick, Limerick, Co. Limerick, Ireland
- P 20 ARMC5 mutation resulting in Cushing syndrome secondary to bilateral macronodular adrenal hyperplasia.
Derry O’Flynn¹, Deirdre Doyle¹, Tom Higgins², Antoinette Tuthill¹
1. Cork University Hospital, Wilton, Cork, Ireland 2. University Hospital Kerry, Tralee, Kerry, Ireland
- P21 A case of maternally inherited diabetes and deafness (MIDD) presenting with subacute choreiform movements.
Amy Jones, Jayna Smyth, Bernadette McNabb, Paul McMullan
Diabetes Department, Ulster Hospital Dundonald, Belfast

RESEARCH, AUDIT, QUALITY IMPROVEMENT

- P22 Insulin prescribing, administration, and glucose monitoring trends in Galway University Hospitals
Diana Hogan-Murphy¹, Deirdre Cunningham¹, Aoife Hanrahan², John Given¹, Michael C. Denny^{1,2}, Laurence Egan^{1,2}, Adesuwa Ero¹, Onyinyechi Uwadoka¹, Ridhwaan Salehmohamed¹
1. Galway University Hospitals, Galway, Ireland 2. University of Galway, Galway, Ireland
- P23 Audit Assessing whether Basal Long-term Insulin is Administered in a timely fashion in Patients Presenting in Diabetic Ketoacidosis(DKA) Tipperary University Hospital
Thuto Kalipa, Akansha Dahiya, Elgelani Bahaeldein
Tipperary University Hospital
- P24 A decade of Diabetic Ketoacidosis at type 1 diabetes diagnosis in children and young people nationally by Slaintecare region.
Edna F. Roche^{1,3}, Amanda M. McKenna¹, Myra O’Regan¹, Kerry J. Ryder², Helen M. Fitzgerald³, Hilary M. C. V. Hoey¹
¹ The Discipline of Paediatrics, School of Medicine, Trinity College Dublin, Dublin, Ireland ² The Research and Evidence Office, Health Service Executive, Dublin, Ireland ³ The Department of Paediatric Growth, Diabetes, and Endocrinology, Children’s Health Ireland (CHI) at, Tallaght University Hospital, Dublin, Ireland
- P25 Self-Injection Education Using Automated Digital Doctors
Seán Coleman^{1,2}, Cairtriona Lynch², Hemendra Worlikar¹, Emily Kelly¹, Katie Loveys³, Jane Walsh¹, Elizabeth Broadbent³, Francis Finucane^{1,2}, Derek O’Keeffe^{1,2}

¹University of Galway, Ireland. ²University Hospital Galway. ³University of Auckland, New Zealand.

P26 Thinking too much about glucose?

Kevin Burke, Susan Cameron, Colum Horan, Mohammad Bin Mahfooz, Anne Marie Hannon, Audrey Melvin and Eoin Noctor

Endocrine Department, University Hospital Limerick, Limerick, Ireland

P27 Insights from Early Patient Experiences of using Smart Insulin Pens

Robert P McEvoy, Antoinette Tuthill

Centre for Endocrinology, Diabetes and Research, Cork University Hospital, Cork, Ireland.

P28 Audit of Patient Awareness of Sick Day Rules whilst on a sodium-glucose co-transporter-2 inhibitor.

Benáí Paponette, Ellen Beirne, Mohammed Towfig, Siobhan Bacon

Sligo University Hospital, Sligo, Ireland

P29 Quality measures in the Diabetes Clinic.

Ciara Kilcoyne¹, Gillian Bennett¹, Graham Gallagher¹, May Almithin¹, Alexandra Bohneje¹, Clare Chadda¹, Mohammad Bin Mahfooz¹, Anne Marie Hannon¹, Audrey Melvin¹, Eoin Noctor^{1,2}

¹Department of Endocrinology, University Hospital Limerick, Co. Limerick, Ireland. ². University of Limerick, Co. Limerick, Ireland

P30 Assessment and management of blood glucose in acute stroke patients

Kathryn Ryan, Shauna McBride, Geralt Roberts, Claire McHenry

Department of Endocrinology, Royal Victoria Hospital, Belfast

P31 An audit of a quality improvement tool to improve statin prescription in patients with T1DM.

Maher Sean¹, Canavan Ronan¹.

1.St. Vincent's University Hospital, Dublin.

P32 Type 1 Diabetes Structured Education in Ireland in 2023: the DAFNE expansion.

Cathy Breen¹, Margaret Humphreys², Dervla Kennedy¹, Joanne Lowe¹, Kevin Moore¹, Sean Dinneen³, Gillian Thompson⁴, Derek O'Keeffe¹

¹National Clinical Programme for Diabetes, Clinical Design and Innovation, Health Service Executive, Ireland ²Self-Management Education and Support Office, Office of National Clinical Advisor and Group Lead for Chronic Disease, Health Service Executive, Ireland ³School of Medicine, University of Galway and Centre for Diabetes,

Endocrinology and Metabolism, University Hospital Galway, Ireland ⁴National Director DAFNE programme, Northumbria Healthcare NHS Foundation Trust, United Kingdom

P33 DAFNE delivery in the UK and Ireland 2019-2022

Fiona Riordan¹, Cathy Breen², Margaret Humphreys³, Sean Dinneen³, Sheena McHugh¹

¹School of Public Health, UCC ²National Clinical Programme for Diabetes, Clinical Design and Innovation, HSE ³Self-Management Education and Support Office, NCAGL, HSE ³School of Medicine, University of Galway and Centre for Diabetes, Endocrinology and Metabolism, University Hospital Galway

P34 An Audit of Technology Use and Data Entry in Patients Living with Type 1 Diabetes at a Primary University Hospital.

Seán Coleman^{1,2}, Áine Cunningham¹, Muhammad R Salehmohamed², Derek O’Keeffe^{1,2}

¹University Hospital Galway, Ireland. ²University of Galway.

P35 Early impact of hybrid closed-loop insulin pump systems in a regional paediatric diabetes population.

Sarfazar Janjua, Mary Norris, Alison McCaffrey, Clodagh S O’Gorman, Orla M Neylon

University Hospital Limerick, Dooradoyle, Limerick

P36 Glucometric utilisation in an urban teaching hospital in Ireland : Current practice and future aims.

Joseph McGauran¹, Arianna Dart¹, Matthew Widdowson², Phyllis Reilly², Gerard Boran.^{1,2}

¹ Trinity College Dublin School of Medicine, Dublin, Ireland. ² Tallaght University Hospital, Dublin, Ireland

P37 Glycaemic control in people with Type 1 diabetes mellitus (T1DM) using real-time continuous glucose monitoring (rtCGM) is influenced by competency in diabetes management

Zainab AL Bulushi, Hong Ying Li, Robert P McEvoy, Antoinette Tuthill

Centre for Diabetes, Endocrinology and Research, Cork University Hospital, Cork, Ireland.

P38 The association of HbA1c with person-reported hypoglycaemia occurring above hypoglycaemic glucose range: the Hypo-METRICS study.

Patrick Divilly¹, Natalie Zaremba¹, Gilberte Martine-Edith¹, Zeinab Mahmoudi^{1,2}, Uffe Søholm^{2,3}, Frans Pouwer^{3,4}, Stephanie A. Amiel¹, Pratik Choudhary^{1,5} for the Hypo-RESOLVE Consortium

1.Department of Diabetes, School of Life Course Sciences, Faculty of Life Sciences and Medicine, King’s College London, London UK SE5 9RJ 2.Medical & Science, Patient Focused Drug Development, Novo Nordisk A/S, Søborg, Denmark. 3.Department of Psychology, University of Southern Denmark, Odense, Denmark. 4.Steno Diabetes Center Odense (SDCO), Odense, Denmark. 5.Diabetes Research Centre, University of Leicester, Leicester, UK LE5 4PW

P39 The use of continuous glucose monitoring in inherited metabolic diseases with hypoglycaemia – a real world review.

Christine Newman, Charlotte Ellerton, Patty Nguyen, James Girling, Robert Lachmann, Elaine Murphy

Charles Dent Metabolic Unit, Internal Mailbox 92, National Hospital for Neurology and Neurosurgery, Queen Square, London WC1N 3BG

P40 DEXCOM® continuous glucose monitoring device improves hypoglycaemic awareness and quality of life in people with Type 1 diabetes – a qualitative cross-sectional analysis.

Benáí Paponette¹, Elias Eltoum¹, Laura Keaver¹, Liam Clarke¹, Jordan Carty¹, Siobhan Bacon¹, Catherine McHugh¹

¹Sligo University Hospital, Sligo, Republic of Ireland.

P41 An audit of glycaemic outcomes in people with type 1 diabetes mellitus following initiation of advanced hybrid closed-loop therapy in a tertiary referral centre.

Niamh McDermott, Sonya Browne, Hannah Forde, Diarmuid Smith

Department of Endocrinology and Diabetes Mellitus, Beaumont Hospital

P42 Temporal changes in endocrinology inpatient consult activity at University Hospital Limerick (UHL)

Susan Cameron, Colum Horan, Mohammad Bin Mahfooz, Anne Marie Hannon, Eoin Noctor and Audrey Melvin

University Hospital Limerick, Limerick, Ireland

P43 Inclusive Voices in Diabetes Care: Patient and Stakeholder Priorities in Type 1 Diabetes Research

Columb Kavanagh, Christine Newman, Peadar Rooney, Fidelma Dunne

HRB Clinical Research Facility, Department of Medicine, University Hospital Galway, County Galway, Republic of Ireland

P44 “Redirecting the flow” - early experience with a community diabetes service

Caoimhe Casey, Margaret Melia, Orla Fitzgerald, Marie Gately, Abdullah Abdullah, Aisling O Connor, Tomas Griffin, Sean Dinneen

University Hospital Galway, Galway, Ireland

P45 Pathway for Diagnosing Type 1 Diabetes in New Referrals to a Rapid Access Diabetes Service.

Amy Hunter, K. Robinson, R. Lafferty, R. Toner, P. McGurk, B. McNabb, P. McMullan

Diabetes Centre, Ulster Hospital, Belfast, Northern Ireland

P46 The utility of C-peptide measurement in people diagnosed with type 1 diabetes

Hugh T. Coyle, Darren Rattigan, Kate Hourigan, Colin Davenport, Tommy Kyaw-Tun, John H McDermott, Seamus Sreenan

Connolly Hospital, Blanchardstown, Dublin

- P47 Assessing Glycaemic Management: Insights from the Carbohydrate-Insulin Ratio Deviations
Pathan Faisal Khan¹, John Donovan¹, Etain Kiely², Konrad Mulrennan¹
Atlantic Technological University, Sligo, Ireland. Atlantic Technological University, Galway, Ireland
- P48 Retrospective analysis of glucagon-like-peptide-1 (GLP-1) receptor agonist use in patients with type 1 diabetes mellitus. Real world experience of an academic teaching hospital.
Maher Sean^{1,2}, Leunbach Johann², Silke-McKeown Alanna², Slattery David^{1,2,3}
1.St Vincent's University Hospital, Elm Park, Dublin, 2.St Michael's Hospital, Dun Laoghaire, Dublin, 3.School of Medicine, University College Dublin.
- P49 Audit of the utility of glucagon like peptide 1 (GLP1) analogues in insulin treated type 2 diabetes.
Laura Ryan¹, Gavin O'Connor¹, Sarah Fitzpatrick¹, Eoin Noctor^{1,2} and Audrey Melvin¹
¹Department of Endocrinology, University Hospital Limerick, Limerick, Ireland.
²School of Medicine, University of Limerick, Limerick, Ireland.
- P50 A re-audit of compliance with international consensus recommendations on clinical targets for continuous glucose monitoring in adults with diabetes mellitus attending an Irish tertiary hospital.
NM Awan¹, A Sarwani¹, A Courtney¹, D Smith¹, H Forde¹
¹Department of Diabetes & Endocrinology, Beaumont Hospital, Dublin 9.
- P51 A novel unimolecular peptide targeting GLP-1 and APJ receptors exerts potent satiety inducing effects in mice
Ethan Palmer, Sarah Craig, Nigel Irwin & Finbarr PM O'Harte
Ulster University, Coleraine, Northern Ireland.
- P52 Mitochondrial heteroplasmy- phenotype correlation and response to appropriate glucose lowering therapy in subjects with Maternally inherited Diabetes and Deafness
Nicholas Ng¹, Begona Sanchez¹, CJ McCarrick¹, Cian Mangan¹, Marie Burke¹, Robert O'Byrne¹, Claire Gavin², James J O'Byrne¹, Maria M Byrne¹
¹Mater Misericordiae University Hospital, Eccles Street, Dublin 7, ² Mater Private Hospital, Eccles Street, Dublin 7
- P53 No effect of semaglutide or tirzepatide on *in vitro* aggregation or activation of platelets from healthy subjects.

Anusha Prem Kumar^{1,2}, Seamus Sreenan², Marian Brennan¹

¹Royal College of Surgeons Ireland, ² Connolly Hospital Blanchardstown, County Dublin

P54 Intramuscular Glucagon prescribing in outpatients with Type 1 Diabetes Mellitus

Robert Lyons, David Slattery

Department of Endocrinology, St. Michael's Hospital, Dún Laoghaire, Dublin, Ireland.

P55 Acute diabetes dietitians in Ireland: excellence, innovations and challenges.

Cathy Breen¹, Margaret Humphreys², Dervla Kennedy¹, Derek O'Keeffe¹

¹National Clinical Programme for Diabetes, Clinical Design and Innovation, Health Service Executive, Ireland ²Self-Management Education and Support Office, Office of National Clinical Advisor and Group Lead for Chronic Disease, Health Service Executive, Ireland

P56 Documentation of CGM data in University Hospital Limerick diabetes outpatient clinics

Gillian Bennett¹, Ciara Kilcoyne¹, Anne Marie Hannon¹, Eoin Noctor^{1,2}, Audrey Melvin¹

¹University Hospital Limerick ²University of Limerick

P57 The Clinical Management of Hepatocyte Nuclear Factor 4-Alpha – Maturity Onset Diabetes of the Young (HNF4A-MODY) in a dedicated MODY clinic

Mairéad T Crowley, Stephen Ludgate, Siobhán Bacon, Marie Burke, Maria M Byrne

Mater Misericordiae University Hospital, Dublin 7, Ireland

P58 Adherence to post-natal follow up in Gestational Diabetes Mellitus (GDM)

Niamh Ryan¹, Jackie Simpson², Deborah Burns², Inez Cooke², Helen Goodall², Robert D'Arcy¹, Helen Wallace², Claire McHenry²

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P59 Exploring Women's Experiences, Perceptions, and Understanding of Gestational Diabetes Mellitus for Improved Patient Care.

Allie M Seminer¹, Anca Trulea^{1,2}, Delia Bogdanet^{1,2}

¹University of Galway, Galway, Ireland, ²University Hospital Mayo, Castlebar, Ireland

P60 Overview of characteristics of patients attending for gestational diabetes screening in two large maternity hospitals.

David Fennell^{1,2,3}, Brendan T Kinsley^{1,3}, Mensud Hatunic^{2,3}

1.Coombe Women and Infants University Hospital, Dublin. 2.National Maternity Hospital, Holles Street, Dublin.
3.Mater Misericordiae University Hospital, Dublin.

- P61 Impact of changes in Gestational Diabetes Mellitus diagnostic criteria during the COVID-19 pandemic
Jessica Neville¹, Kelly Foley¹, Sean Lacey², Louise O'Mahoney³, Antoinette Tuthill¹, Oratile Kgosidialwa^{1,3}, Mairead O'Riordan³, Fiona O'Halloran², Sean Costelloe¹
1. Cork University Hospital (CUH), Wilton, Cork 2. Munster Technological University, Bishopstown Campus, Cork
3. Cork University Maternity Hospital (CUMH), Wilton, Cork
- P62 Investigating the Carbon Footprint in Diabetes Research Clinical Trials: A Case Study of the EMERGE Trial
Columb Kavanagh, Christine Newman, Fidelma Dunne.
HRB Clinical Research Facility, Department of Medicine, University Hospital Galway, County Galway, Republic of Ireland
- P63 Barriers to antenatal care: A single centre audit of barriers to antenatal care for women with diabetes in Sligo University Hospital (SUH)
Yasoda Subramanian¹, Olivia Lipsett¹, Lisa Kelly¹, Siobhan Bacon¹
¹Sligo University Hospital, Sligo, Ireland
- P64 Comparison of Oral Glucose Tolerance Test vs Glucose Challenge Test as Screening Tools for Gestational Diabetes (GDM) – A Single Centre, Pilot Retrospective Review
Daniel Nevin¹, Danielle Scheepers², Sam Thomas¹, Amy Farrelly¹, Ultan Healy¹, Shu Hoashi¹
1.Regional Hospital Mullingar, Co.Westmeath. 2.School of Medicine, University College Dublin, Belfield, Dublin 4.
- P65 Clinical and metabolic phenotyping of a large prospective cohort of Irish women with polycystic ovary syndrome (PCOS): the relationship between insulin sensitivity and serum classic and 11-oxygenated androgens
Tara M. McDonnell^{1,2}, Leanne Cussen^{1,2}, Clare Miller^{1,2}, Angela Taylor³, Wiebke Art³, Shari Srinivasan⁴, Mark Sherlock^{1,2}, Michael W. O'Reilly^{1,2}
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- P66 Weight loss associated with GLP1 receptor agonist use in obese women with polycystic ovary syndrome- a retrospective cohort study
Fatimah Alawami^{1,2}, Olivia Novaes¹, Niamh Phelan¹, Lucy Ann Behan², James Gibney², Lisa Owens¹
¹St James Hospital, Dublin, Ireland. ²Tallaght University Hospital, Dublin, Ireland.

- P67 Clinical needs requiring multidisciplinary support in people attending the National Gender Service.
 Maher Sean¹, Kearns Sean² and Neff Karl^{1,2}
 1.St Vincent's University Hospital 2.National Gender Service, St Columcille's Hospital
- P68 Identification of clinical need using a structured clinical review template in the National Gender Service.
 Maher Sean¹, Kearns Sean² and Neff Karl^{1,2}
 1.St Vincent's University Hospital 2.National Gender Service, St Columcille's Hospital
- P69 A pilot study investigating energy availability and body composition in a cohort of female GAA players.
 Michelle Kealy¹, Aoife Courtney², Billy Murphy², Adrienne Wyse², Elaine McCarthy¹, Majella O'Keeffe¹, Antoinette Tuthill²
¹ University College Cork, Cork, Ireland. ² Cork University Hospital, Cork, Ireland.
- P70 Low Energy Availability in Female GAA Athletes: A Survey of Prevalence, Awareness and Supports
 Aoife Courtney, Adrienne Wyse, Billy Murphy, Oratile Kgosidialwa, Antoinette Tuthill.
 Cork University Hospital, Cork. University College Cork
- P71 How do people living with overweight and obesity perceive healthcare professionals' representation of the disease on social media.
 Sean Maher¹, Joseph McHugh¹, Michael Crotty², Susie Birney³, Jean O'Connell⁴, Francis Finucane⁵, Muirne Spooner¹.
 1.Royal College of Surgeons in Ireland, University of Medicine and Health Sciences, Dublin, Ireland. 2.My Best Weight, Blackrock, Dublin, Ireland. 3.Irish Coalition for People Living with Obesity, Dublin, Ireland. 4.St Columcille's Hospital, Dublin, Ireland. 5.University Hospital Galway, Galway, Ireland.
- P72 Methodological and Cohort Heterogeneity in Epidemiological Estimates of Obesity Prevalence in Ireland.
 Muhammad Najmi Md Nor¹, Francis M. Finucane¹
¹Department of Endocrinology, Galway University Hospitals, Saolta University Health Care Group
- P73 The interrelation between dietary habits and appetite hormone levels in children.
 Enya Gallagher¹, Thaïs De Ruyter², Aileen Kennedy¹.
¹ Technological University Dublin, Dublin, Ireland ² Ghent University, Ghent, Belgium

- P74 Effect of Glucagon-Like Peptide-1 Receptor Agonists for Treating Weight Regain After Bariatric Surgery. A Systematic Review and Meta-Analysis.
Areej Algargoush, Claudio Pagano.
Centre for Diabetes, Endocrinology and Metabolism, Galway University Hospitals, Galway.
- P75 The demographic, clinical characteristics, and outcome of patients with Ketosis Prone Type 2 Diabetes: A Systematic review and meta-analysis.
Hussain Al-Maqtouf¹, Abdulrahman Alahmadi¹, Rania A. Mekary², Aaron Liew¹
1University of Galway and Portiuncula University Hospital, Galway, Ireland, 2Massachusetts College of Pharmacy and Health Sciences, Boston, United States of America
- P76 Hypo- and Hyperglycaemia in Neonatal Encephalopathy: A Systematic Review
Maryam Alkanderi¹, Faisal Ghandourah¹, Angela Joy¹, Irtaza Malik¹, Nur Shahrudin¹, Tianhao Yao¹, Aniq Razin Yoong¹, Judith Meehan^{1,2,3}, Eman Isweisi¹, Philip Stewart¹, Aoife Branagan^{1,7}, Edna Roche^{1,3,4}, Eleanor J Molloy^{1,2,3,4,6,7}
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- P77 Inadequate glucocorticoid stress dosing in patients admitted to an acute hospital.
Moloney N, Kelleher A, Danish H, Hannon MJ.
Department of Endocrinology, Bantry General Hospital, Bantry, Co. Cork
- P78 Fracture Liaison Services in Ireland – tackling the rising impact of osteoporosis.
¹Frances Dockery, ²Aaron Glynn, ³Ruth Kiely.
¹Beaumont Hospital Dublin, ²Our Lady of Lourdes Hospital, Drogheda, ³National Clinical Programme for Trauma and Orthopaedic Surgery
- P79 An Audit of Current Practice and Development of Clinical Aids for the Investigation and Management of In-patient Hyponatraemia in Mayo University Hospital.
Wei Keong Kon¹, Ronan McLernon¹, Caitlyn Loo¹, Harisanjiv Rajendram¹, Adil Shabbir¹, Delia Bogdanet^{1,2}
1.Mayo University Hospital, Castlebar, Ireland 2.University of Galway, Galway, Ireland
- P80 Service evaluation suggests variation in clinical care provision in adults with congenital adrenal hyperplasia in the UK and Ireland

Lauren Madden Doyle¹, Syed Faisal Ahmed², Sue Elford³, Yasir Elhassan⁴, Lynette James⁵, Neil Lawrence⁶, Sofia Llahana⁷, Aled Rees⁸, Jeremy Tomlinson⁹, Michael W. O'Reilly¹, Nils Krone⁶

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PUBLICATION OF ABSTRACT ONLY

CASE REPORTS & CASE SERIES

A1 Hypokalaemic metabolic acidosis - the common and rare collide.

Doua Ahmed¹, Karen Mullan¹, Helen Wallace¹, Paul Hamilton²

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A2 When variants of unknown significance become highly significant: a case of sitosterolaemia

Gary Roulston; Paul Hamilton

Belfast Health and Social Care Trust, Belfast

A3 Spontaneous Hypoglycaemia in People Without Diabetes

Deirdre Green, Vanessa Farnan, David McDonnell, Hannah Forde, Diarmuid Smith

Department of Diabetes and Endocrinology, Beaumont Hospital

A4 TSH-oma and Response to Medical Therapy

Deirdre Green, DJ O'Halloran

Department of Diabetes and Endocrinology, Cork University Hospital

A5 Technology Use in Older Patients with Type 1 Diabetes (T1DM): A Case Series

Aisling McCarthy¹, Siobhán E McQuaid^{1,2}

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A6 Artifactual hypoglycaemia due to Raynaud's phenomenon

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- A7 A sporadic case of young onset primary hyperparathyroidism (PHPT) and impact on bone mineral density
Conor Vaughan^{1,2}, Ma Pyeh Kyithar¹
1.Diabetes & Endocrinology Department, Midland Regional Hospital Portlaoise, County Laois, Ireland 2.University College Dublin Intern Network, Ireland
- A8 Panhypopituitarism Post Extracranial Radiotherapy: A Case Report
Fionnuala Redmond, Sarah Jane Lennon, Nigel Glynn.
Department of Endocrinology, Mater Misericordiae University Hospital, Dublin 7
- A9 The use of Control IQ Hybrid Closed Loop Technology for Glycemic Control in Adults with Cystic Fibrosis-Related Diabetes CFRD
Ibrahim Yaseen, David Slattery MD
St. Vincent's University hospital, Diabetes centre, Dublin, Ireland .
- A10 Hypoglycemia as a presenting symptom of profound severe hypothyroidism with a TSH of 210 mIU/L
Mohsin Mukhtar, Irbaz Nazir, Kumari Naidoo
St. Luke's Hospital Kilkenny, Republic of Ireland
- A11 Back to Basics, Importance of Insulin Administration Technique
Muhammad Najmi Md Nor¹, Geoffrey Yew¹, Muhammad Ridhwaan Salehmohamed¹
1Department of Endocrinology, Galway University Hospital
- A12 A Case of secondary hyperaldosteronism with unilateral atrophic kidney.
Adnan Nasir¹, Asad Khan¹, Rosemary Dinneen², Michael O'Reilly², Ma Pyeh Kyithar¹
1.Midland Regional Hospital Portlaoise, County Laois, Ireland 2. Department of Endocrinology, Beaumont University Hospital, Dublin, Ireland
- A13 HCL systems during challenging periods intra- and post-partum. A case series.
Julie Gaine, Kelley Hennigan, Lisa M Kelly, Ann Ferguson, Siobhan Bacon.
Sligo University Hospital, Sligo, Ireland.
- A14 Right homonymous hemianopia resulting in road traffic accident in two males presenting with hyperprolactinaemia

Brian Carthy¹, Elsheikh Ali¹, Deirdre Green¹, Donal J O'Halloran¹, Antoinette Tuthill^{1,2}

¹Department of Endocrinology, Cork University Hospital, Wilton, Cork, ² University College Cork, College Road, Cork

- A15 Acute Presentation of Immune Checkpoint Inhibitor-Induced Diabetes Mellitus with Diabetic Ketoacidosis
Adesuwa Ero, Sean Dinneen
University Hospital Galway, Galway, Ireland
- A16 Cardiomyopathy and autoantibody positive diabetes with insulin resistance – a case of a PRKAG2 mutation
Darren Rattigan¹, Abhishek Pallippattu¹, John H McDermott, Colin Davenport, Tommy Kyaw Tun, Marian Brennan, Seamus Sreenan
Connolly Hospital Blanchardstown, Dublin, Ireland and The Royal College of Surgeons Ireland University of Medicine and Health Sciences 1-Joint First Authorship
- A17 Case report of a novel FGFR1 mutation variant. Deafness not anosmia as defining symptom in Kallmann Syndrome.
Julie Gaine, Siobhan Bacon
Dept. of Diabetes & Endocrinology, Sligo University Hospital
- A18 Case report of factitious hypoglycaemia. Case report of factitious hypoglycaemia.
Benái Paponette, Amjed Khamis.
Letterkenny University Hospital, Donegal, Republic of Ireland
- A19 Type 1 Diabetes Mellitus (T1DM) is a Potential Rare Immune Response to Immune Checkpoint Inhibitor Treatment with Pembrolizumab.
Farooq Khan, Maria Carey, James Ryan.
Mercy University Hospital Cork.
- A20 Case Report: Establishing Ireland's first metabolic clinic in the National Forensic Mental Health Service.
Maher Sean¹, Smyth Laura², O'Shea Donal^{1,2}
1.St Vincent's University Hospital, Elm Park, Dublin 2.National Forensic Mental Health Service
- A21 Asymptomatic pheochromocytoma in a patient with adrenal incidentaloma
Aoife Ashfaq Raja¹, Conor Meehan¹, Rachel Crowley², Ma Pyeh Kyithar¹

1.Midland Regional Hospital Portlaoise, County Laois, Ireland 2.Department of Endocrinology, St. Vincent's University Hospital, Dublin, Ireland

- A22 Unusual Plurihormonal Tumor Co-Expressing Pit-1 and SF-1
Lok Yi Joyce Tan, Eibhlin Lonergan, Elsheikh Ali, Niamh Bermingham, Michael Jansen, Domhnall J O'Halloran
Cork University Hospital, Cork, Ireland
- A23 Macroprolactinoma haemorrhage in pregnancy
Sarah Jane Lennon¹, David Fennell^{1,2}, Mensud Hatunic^{1,2}.
1.Endocrinology Dept, Mater Misericordiae University Hospital, Eccles St, Dublin 1. 2.Endocrinology Dept, NMH Holles Street, Dublin 2
- A24 Case Report of Osteitis Fibrosa Cystica (OFC) in a sixteen year old male with Primary Hyperparathyroidism (PHPT)
Cormac O'Meara, Aftab Khattak.
Department of Endocrinology, Our Lady of Lourdes Hospital, Drogheda, Co Louth, Ireland.
- A25 Case report of Hashimoto Encephalopathy- an encephalopathic dilemma. Benáí Paponette, Angela Milan-Thomas, Siobhan Kelly, Kevin Murphy.
Sligo University Hospital, Sligo, Republic of Ireland.
- A26 A case of synchronous pheochromocytoma and renal cell carcinoma
Laura Ryan¹, Olu Ipadeola¹, Subhasis Giri^{1,2}, Eoin Noctor^{1,2}, Audrey Melvin¹, Annemarie Hannon¹
¹ University Hospital Limerick, Ireland ² University of Limerick Graduate Entry Medical School, Limerick, Ireland
- A27 Case report of amiodarone-induced thyrotoxicosis type 2 in the elderly. Case report of amiodarone-induced thyrotoxicosis type 2 in the elderly.
Benáí Paponette, Siobhan Bacon.
Sligo University Hospital, Sligo, Republic of Ireland.
- A28 Case Report: Acetazolamide for the management of polyuria in a patient with lithium induced nephrogenic diabetes insipidus (Li-NDI).
Kelleher A, Moloney N, Danish H, Gokul J, Hannon MJ.
Department of Endocrinology, Bantry General Hospital, Cork, Ireland
- A29 A Case Series: Women with gonadotropin resistance syndrome or primary hypogonadism without reduced ovarian reserve.
Robert Lyons¹, James Gibney¹, Niamh Phelan², Lisa Owens², Lucy Ann Behan¹

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- A30 Identifying Factors that Influence the Time to Onset of Ketosis in Exercise and Nutrition Scenarios
Salman Alsalem¹, Enda Murphy^{1,5}, Jessica Sayfullaeva¹, Caitriona Lynch², Tara Kelly², Eabha Walsh¹, Timothy Obrien^{1,2,3,4}, Martin Leahy^{4,5}, Francis Finucane^{1,2,3,5}
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- A31 Audit on Incidence of Hyponatremia in Prader-Willi Syndrome: A Need for Enhanced Awareness and Evaluation
Muhammad Najmi Md Nor¹, Rayanna Maraj¹, James Gibney¹, Aoife Garrahy¹
¹Department of Endocrinology, Tallaght University Hospital
- A32 Assessment of Glycaemic Status in Patients with Acute Coronary Syndromes presenting to an Acute Medical Assessment Unit
Victoria Cooper, Catherine McGorrian, Nigel Glynn
Mater Misericordiae University Hospital, Dublin 7
- A33 The prevalence and severity of diabetic retinopathy in HNF1A- and GCK-MODY
Sarah Jane Lennon, Conor Larney, Mairead Crowley, Stephen Kelly, Louise O'Toole and Maria Michele Byrne.
Department of Endocrinology, Mater Misericordiae University Hospital, Eccles St, Dublin
- A34 "MDT or 'Making-Do Team' - Real-Life Experience of a Multidisciplinary Team (MDT) Diabetic Foot Round Without Surgical Input in a Tertiary Hospital"
Michael Lockhart, Aonghus O'Loughlin, David Gallagher, Eoin O'Ceallaigh, Ellen Young, Áine Cunningham, Katie O'Shea, Marian Cahill-Collins, Sean Dinneen
Centre for Diabetes, Endocrinology and Metabolism, Galway University Hospitals, Galway, Ireland
- A35 Diabetes at the front door: A Service evaluation of a recently established in-reach service.
Kathryn Robinson, Rebecca Lafferty, Bernadette McNabb, Jayna Smyth, Amy Jones, William Munday, Philip Zecevic, Paula McGurk, Paul McMullan

Diabetes Centre, Ulster Hospital, Belfast, Northern Ireland

A36 User feedback on recently established diabetes rapid access services

Rebecca Lafferty, Kathryn Robinson, Bernadette McNabb, Jayna Smyth, Amy Jones, William Munday, Paula McGurk, Paul McMullan

Diabetes Centre, Ulster Hospital, Belfast, Northern Ireland

A37 An Audit of the Characteristics, Investigation, Management and Outcomes of Patients with Hyponatremia Presenting to an Irish Tertiary Hospital

Aoife Courtney, Lok Yi Joyce Tan, Ali Elsheikh, Faye O'Donovan, Iman Faez Bin Mohd Sori, Rachel Riegel, Tara O'Sullivan, Antoinette Tuthill, Oratile Kgosidialwa.

Cork University Hospital, Cork. University College Cork

A38 An audit of young patients with type 1 diabetes mellitus attending an adult outpatient clinic

Roisin Gardiner, Dylan Shannon, Conor Woods, Kevin Moore

Naas General Hospital, Naas, Co. Kildare, Ireland

A39 Dyslipidaemia management in patients with diabetes and chronic kidney disease within a model 3 hospital.

Luke A Harris ^{1,2}, Fiona M Murphy ², Paul O'Hara ^{1,2}

¹ Portiuncula University Hospital, Galway, Ireland, ² Galway University Hospital, Galway, Ireland

A40 Effects of 24-hour fasting on blood ketone concentrations

Jessica Sayfullaeva¹, Salman Alsalem¹, Enda Murphy^{1,5}, Caitriona Lynch², Tara Kelly², Eabha Walsh¹, Timothy Obrien^{1,2,3,4}, Martin Leahy^{4,5}, Francis Finucane^{1,2,3,5}

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A41 Pituitary disease in MEN1: follow up of patients in Northern Ireland (NI)

Muhammad A Shahzad, Doua Ahmed, Robert D'Arcy, Una M Graham, Claire M McHenry

Regional Centre for Endocrinology and Diabetes, Royal Victoria Hospital, Belfast

A42 A retrospective audit of the usage of continuous glucose and flash glucose monitoring in people with type 1 diabetes

Hugh T. Coyle, Darren Rattigan, Kate Hourigan, Colin Davenport, Tommy Kyaw-Tun, John H McDermott, Seamus Sreenan

Connolly Hospital, Blanchardstown, Dublin

- A43 Limitations of pre-operative localisation studies in patients with MEN 1; a retrospective audit
Muhamad F Muhamad¹, Gina Dennehy¹, Suzanne Marie Egan¹, John Kinsella², James Gibney¹, Aoife Garrahy¹
1.Robert Graves Institute, Department of Endocrinology and 2.Department of Otolaryngology, Tallaght University Hospital, Dublin, Ireland
- A44 Comparison of ultrasound and technetium sestamibi scintigraphy for pre-operative localization of enlarged parathyroid glands in primary hyperparathyroidism.
Adrienne Wyse¹, Gibbons D¹, McNeil G¹, Pritchard R¹, Rachel Crowley¹
¹St Vincent's University Hospital.
- A45 Implementation of an autoantibody panel for testing patients with suspected type 1 diabetes in a tertiary hospital
Clare O'Brien¹, Jennifer Mulhall², Najmi Md Nor¹, Vincent Tormey², Derek O'Keeffe¹
¹Centre for Diabetes, Endocrinology & Metabolism, Galway University Hospital
²Department of Immunology, Galway University Hospital
- A46 Assessing Vitamin D level and appropriateness of treatment in an inpatient cohort in Connolly Hospital Blanchardstown
Danish Aminudin, Julia Ioana, Najia Siddique
Department of Endocrinology, Connolly Hospital, Blanchardstown, Dublin
- A47 An Audit of Insulin Prescribing Practices in University Hospital Limerick (UHL).
Ciara Kilcoyne¹, David B Slater¹, Alexandra Ogon Bohnejie¹, Gavin O'Connor¹, Audrey Melvin¹, Eoin Noctor^{1,2}, Anne Harnett^{1,2}, Bernadette Murphy¹
¹ Department of Endocrinology, University Hospital Limerick, Limerick. ² University of Limerick, Limerick.
- A48 An Audit of the Adherence of Long-acting Insulin Administration during DKA in SVUH
Sarah Higgins, Rachel Crowley
St. Vincent's University Hospital, Dublin, Ireland
- A49 Charcot Foot in Connolly Hospital - the Connolly Hospital Foot Protection Team Experience

Julia Ioana, F Mudafer, J Kahlon, Roxana Tudor, Najia Siddique, Colin Davenport, Tommy Kyaw Tun, Seamus Sreenan, Kellie Fortune, John McDermott

Academic Department of Endocrinology, Connolly Hospital Blanchardstown and Royal College of Surgeons in Ireland

- A50 Vitamin B₁₂ screening amongst Type 2 diabetic patients treated with metformin: audit from a diabetic foot outpatient service.
Benáí Paponette, Ellen Young, Colm Walsh, Marie Gately, Aonghus O'Loughlin Galway University Hospital, Galway, Ireland

ORAL COMMUNICATIONS

- OC1 Effects of specific neuropeptide Y4 receptor activation on pancreatic beta-cell function and appetite suppression.

Wuyun Zhu, Neil Tanday, Aimee Coulter-Parkhill, Peter Flatt, Nigel Irwin.

Ulster University, Coleraine, United Kingdom.

Pancreatic polypeptide (PP) is a pancreatic islet-derived hormone that activates neuropeptide Y4 receptors (NPY4R). Despite this, knowledge of the impact of NPY4R modulation on islet function is limited. The current study has generated PP analogues and examined their impact on beta-cell function and appetite suppression. The PP analogues, [P³]PP, [K¹³Pal]PP, [P³,K¹³Pal], [N-Pal]PP and [N-Pal,P³]PP, were initially assessed for stability against DPP-4 (0.05 U) degradation. Following this, BRIN-BD11 beta-cells (n=8) were used to examine effects on glucose- and alanine-induced insulin secretion (20 minutes; 10⁻¹²-10⁻⁶ M), as well as beta-cell proliferation (10⁻⁸ and 10⁻⁶ M; n=4) by Ki-67 staining and protection against cytokine-induced apoptosis (IL-1β100U/mL, IFN-γ20U/mL, TNF-α200U/mL) by TUNEL staining. Finally, effects of PP analogues (n=8; 25 nmol/kg) on food intake were investigated in mice. All PP analogues were resistant to DPP-4 degradation over an 8-hour incubation period. None of the PP analogues affected glucose- or alanine-induced insulin secretion. However, the PP analogues significantly enhanced (20-30%) BRIN-BD11 beta-cell proliferation and protected against (30-40% decrease) cytokine-induced apoptosis. The NPY4R specificity of these actions was confirmed through co-incubation with the NPY4R antagonist, (S)-VU0637120. All PP peptides, except for [N-Pal] PP and [N-Pal, P³] PP, induced significant (60-70%) appetite suppressive actions in mice. Taken together, we demonstrate that enzyme-resistant, NPY4R-specific PP analogues can be generated, and impart clear benefits on beta-cell growth and survival. The PP analogues also induced appetite inhibitory actions, but this was hindered by N-terminal palmitoylation. Further exploration of NPY4R specific peptides as anti-obesity and pancreatic beta-cell protective agents is warranted.

- OC2 Development and testing of novel co-agonist peptides which activate both the GLP-1 and APJ receptors.

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Glucagon-like peptide 1 (GLP-1) mimetics are leading the wave of effective therapeutic options for type 2 diabetes. Recently, apelin (APJ) receptor agonists have shown promising anti-diabetic properties. Two novel co-agonist hybrid peptides, namely apelin-linker-exendin (ALE) and exendin-linker-apelin (ELA) were developed. The dose-dependent actions (10⁻¹² to 10⁻⁶ M) of ALE and ELA co-agonists on insulin secretion were investigated in pancreatic BRIN-BD11 cells, with insulin measurement by radioimmunoassay. ALE and ELA (10⁻⁶ M) induced a 4.3-fold and 4.8-fold increase, respectively in insulin release versus 5.6 mM glucose control (***P<0.001, ANOVA). For ELA (10⁻⁶ M), the insulinotropic efficacy was curtailed by 10⁻⁸ M receptor antagonists exendin-4(9-39) (62% reduction, P<0.001) and (Val¹³)apelin-13 (44% reduction, P<0.001), returning to the 5.6 mM glucose baseline when both antagonists were present. In contrast, when

ALE was tested acutely *in vivo* following an i.p. glucose tolerance test (ipGTT, 18.8 mM glucose) in male high fat fed diet induced obese (DIO) mice (n=8), no significant reduction in blood glucose was observed. However, the closely related analogue ELA, which was synthesised in the reverse order, showed promising *in vivo* insulinotropic actions when administered at 25 nmol/kg in DIO mice, reducing plasma glucose concentrations immediately after an ipGGT (43% reduction AUC_{0-120 min} glucose, P<0.001) and retaining its efficacy (30% reduction AUC_{0-120 min}, P<0.001) up to 24 h post peptide injection. In conclusion, ALE and ELA co-agonist hybrid peptide both showed potent *in vitro* insulinotropic activity with BRIN-BD11 cells, but only ELA retained its efficacy in a high fat fed DIO mouse model.

OC3 Technology in Diabetes, does your address matter for Type 1 Diabetes care? A national patient survey

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Geographical location should not dictate optimal diabetes care. Recent advances in diabetes technology improves glycaemic control, however uptake and availability varies widely between and within countries. Diabetes Ireland conducted a cross-sectional patient-reported online survey of people with diabetes and parents/carers of children with diabetes in January 2023 via the Diabetes Ireland website and social media. The survey explored access to and satisfaction with diabetes care. Data has been collated and analysed using SPSS27. 230 adults living with Type 1 diabetes (PwT1D) completed the section about diabetes management (average age 45(±13.7)years; duration of diabetes 23.8(±15.8)years; average HbA1c 53.6(±10.5)mmol/mol). 12%(n=27) use glucometers only, 9%(n=21) flash glucose monitoring, 66%(n=148) continuous glucose monitoring (CGM) and additional 13%(n=28) use CGM with Automated Insulin Delivery (AID) systems. No provincial differences were noted in glucose monitoring technology utilisation. Self-reported HbA1c trended downwards in CGM with AID (49.6mmol/mol) and CGM alone (55mmol/mol), compared to glucometer alone (57.8mmol/mol). The majority of PwT1D in all provinces were using multiple daily injections (65%), 16% used insulin pumps and 19% AID. Insulin pump therapy alone or AID were used by 33%(n=21) of PwT1D in Dublin, 40%(n=27) in the rest of Leinster, 18%(n=4) in Connacht and 34%(n=23) in Munster. There was no significant difference in access to technology between patients travelling greater than 25km or less than 25km to their primary diabetes care provider. Preliminary analyses show no difference in access to care and technology throughout Ireland. Further analysis is required to accurately understand access to technology and its impact on patient related outcomes.

OC4 Diabetes Remission Programme (DRP); A Northern Ireland (NI) Pilot

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In 2016, the Diabetes in REmission Clinical Trial (DiRECT)¹ challenged the perception that type 2 diabetes is a lifelong and progressive condition. At 1 year, 46% of participants were in remission and of those that lost over 15kg, 86% gained remission. The aim of the South Eastern Trust (SET) Diabetes Remission Pilot (DRP) was to develop a NI-wide type 2 diabetes remission service. Funding was available for 50 participants. Those meeting the criteria were referred for assessment. The pilot was delivered virtually, in groups of 8-12, by Diabetes Dietitians. The programme consisted of total diet replacement (TDR) using a low calorie formula of 880kcal daily for 12 weeks; stepped food reintroduction for 6 weeks and structured support for the weight maintenance phase for the duration. All glucose-lowering medication stopped on day 1 of TDR. HbA1c, lipid profile, weight and BP were collected at baseline and 12 months. Paired T-tests were used to analyse changes between 0 and 12 months (SPSS version 26). 35 (70%) participants completed the programme and of these 17 (49%) achieved remission. This result (49%) was comparable to DiRECT (46%). Weight loss (>15%) increased probability of remission with 100% in this category in remission. Clinical benefits were demonstrated with statistically significant changes in HbA1c (p=0.005), weight (p<0.001), BMI (p<0.001) and triglycerides (p=0.001). SET DRP outlines an achievable pathway to remission.

¹Lean, MEJ & Leslie, WS *et al* (2017) Primary care-led weight management for remission of type 2 diabetes (DiRECT): an open-label, cluster-randomised trial. *Lancet* [https://doi.org/10.1016/S0140-6736\(17\)33102-1](https://doi.org/10.1016/S0140-6736(17)33102-1)

OC5 Once-daily oral administration of GPR120 agonist Compound A improves pancreatic islet and β -cell health through actions on the small intestine

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The long-chain FFA receptor, GPR120 (FFAR4) has garnered significant interest for the treatment of Type 2 Diabetes and further research is needed in identifying novel synthetic agonists with greater efficacy. One such agonist, Compound A (Merck), has shown potential due to its high selectivity ($EC_{50}=0.35\mu M$).

High-fat-fed (HFF) C57BL/6 mice were treated with a daily oral dose of Compound A ($0.1\mu mol/kg$) alone or in combination with sitagliptin ($50mg/kg$) for 21-days. After long-term treatment of obese-diabetic mice, metabolic effects, islet morphology, tissue gene (qPCR) and protein (immunohistochemistry) expression, insulin sensitivity and glucose tolerance were assessed.

Compound A alone and in combination with Sitagliptin, improved glucose tolerance (33-34%, $p<0.001$) and enhanced insulin sensitivity (21-27%, $p<0.05-0.01$). Compound A alone and in combination with Sitagliptin reduced LDL cholesterol by 50% ($p<0.05$) and 89% ($p<0.01$) respectively. Pancreatic islet immunohistochemistry showed that Compound A increased β -cell proliferation compared to HFF control group (2.5%-6.5%, $p<0.001$), increased β -cell area (41%, $p<0.001$) and mass (37%, $p<0.05$), yet decreasing α -cell area (49%, $p<0.001$) and mass (31%, $p<0.05$). with a marked increase in circulating GLP-1 levels (53%, $p<0.001$). qPCR showed a significant increase in GCG gene expression in jejunum (130%, $p<0.05$) and ileum (120%, $p<0.01$). Compound A + Sitagliptin reduced GCG gene expression decreasing in the jejunum, compared to Compound A alone (50%, $p<0.01$).

Compound A is a viable treatment for T2DM, as GPR120 agonism has beneficial effects on β -cells, mediated by GLP-1 from gastrointestinal L-cells, and in combination with sitagliptin reduces stress on L-cells through decreased demand for GCG gene expression.

OC6 Exploring Glycaemic Variability Relationships and Patterns Using Rolling Window Time Series

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Glycaemic Variability (GV) is a widely used indicator in the management of type 1 diabetes mellitus. This study analysed the OhioT1DM dataset consisting of 12 subjects with 8 weeks of Continuous Glucose Monitoring (CGM) data for evaluating the GV metrics. Various GV metrics were explored, including the Glucose Management Indicator (GMI), Mean Amplitude of Glycaemic Excursions (MAGE), Average Daily Risk Range (ADRR), High Blood Glucose Index (HBGI), and J-index through a rolling window method to uncover their intricate relationships. These metrics were calculated using a 14-day rolling window methodology, which shifted the window daily, thereby capturing dynamic GV metric patterns and trends over time providing useful insights and potentially becoming an aid for diabetes self-management. Pearson's correlation analysis was performed to investigate relationships between these measures. Most subjects had strong J-index and ADRR correlations (0.70 to 0.94), but two subjects demonstrated weak correlations (0.17 and 0.18). Across all subjects, the GMI and J-index were highly correlated (0.69 to 0.99), while HBGI had high correlations with both J-index (0.83-1) and GMI (0.87-1). MAGE demonstrated varying correlations with other metrics. In conclusion, the study reveals the trending capability of the rolling window and provides valuable insights into the GV metrics' relationships, suggesting potential interchangeability between J-index, GMI, and HBGI. Finally, the absence of a significant correlation between MAGE and the other metrics suggests it has a unique role in capturing a different aspect of GV. These findings contribute to a better understanding of GV and have implications for personalised diabetes management.

OC7 Non-invasive volatilomic analysis of infected and non-infected diabetic foot ulcers – initial results from the SWAB study.

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Diabetic foot ulcers (DFU) are a potentially devastating complication that can arise in patients with diabetes mellitus. Whilst early determination of infection allowing for timely antimicrobial treatment is desirable, clinical assessment and current laboratory turnaround times (up to 48 hours) may result in either under- or over-treating DFU infections. The profiling of volatile organic compounds (VOCs) emitted from the wound bed provides an opportunity to help address these issues with a much faster turnaround time of 1-2 hours. In the SWAB (Smart Wound Analysis of Bacterial volatiles) study we investigate if VOC profiling can be used to determine infection status of a diabetic wound. Wound swab samples (26) were collected from 21 patients with diabetes and 2 without diabetes. 15 were from DFU that were considered infected based on clinical assessment. Headspace-solid phase microextraction gas chromatography-mass spectrometry (GC-MS) was used to recover VOCs from wound swabs. A set of 41 VOCs were successfully recovered and identified from the wound swabs. Short chain fatty acid (SCFA) compounds: 3-methylbutanoic acid, butanoic acid, 2-methyl propanoic acid, and acetic acid significantly discriminated infected samples from non-infected samples. Regression analysis was performed on these four SCFAs to generate a mixed receiver operating characteristic (ROC) curve to give an infection prediction accuracy of 89.1%. Phenylethyl alcohol and ethyl acetate were also found to significantly discriminate infected samples from non-infected samples. VOCs extraction and isolation show promise as a panel of biomarkers indicating infection and maybe able to assist decision making for the treatment of DFU.

OC8 Early Metformin in Gestational Diabetes Mellitus - A randomised clinical trial (EMERGE).

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Gestational diabetes is a common pregnancy complication and optimal management is uncertain. We tested whether early metformin reduces insulin initiation or fasting hyperglycaemia at weeks 32 or 38. This double-blinded, placebo-controlled trial occurred in 535 GDM pregnancies randomized 1:1 to placebo/metformin in addition to usual care. The primary outcome was a composite of insulin initiation or fasting glucose ≥ 5.1 mmol/L at weeks 32 or 38. The primary composite outcome was similar, occurring in 150(56.8%) pregnancies in the metformin and 167(63.7%) in the placebo groups (RR 0.89;95%CI:0.78-1.02;p=0.13). Participants receiving metformin were 25% less likely to initiate insulin (RR 0.75;95%CI 0.62-0.91;p=0.004) and time to insulin initiation was longer (p=0.001). They had a lower fasting glucose at weeks 32 (4.9(0.5)vs5.0(0.5);95% CI (-0.19,-0.01);p=0.033) and 38 (4.5(0.5)vs4.7(0.5); 95% CI (-0.28,-0.09);p<0.001) with lower postprandial glucose at lunch at week 32 (5.5(0.9)vs5.7(0.9);95% CI (-0.47,-0.04);p=0.02) and at breakfast 5.4(0.8)vs5.7(1.0); 95%CI (-0.59,-0.04);p=0.024) and dinner (5.5(0.8) vs 6.0(1.0); 95%CI (-0.75,-0.25);p<0.001) at week 38. Metformin exposed women gained less weight from randomization-delivery (0.8(3.3) vs 2.0(3.6) kg;95%CI(-1.99,-0.42);p=0.003). The mean birth weight was lower in metformin exposed infants (3393(527) vs 3504(509);95%CI (-201,-24); p=0.005), with lower rates of macrosomia (7.6%vs14.8%;95%CI(-12.6%,-1.8%);p=0.02) or LGA (6.5%vs14.9%; 95% CI (-13.7%,-3.2%); p=0.003). The crown-heel length was reduced in metformin exposed infants (51.0 (3.2)vs 51.7(3.3) cm;95%CI(-1.3,-0.2);p=0.02). There was a non-significant increase in infants SGA (5.7% vs 2.7%; 95%CI (-0.4%,6.5%);p=0.13) or weighing <2500g (6.1% vs 3.4%; 95%CI (-1%,6.3%);p=0.12). Gestational age, mode of deliver and maternal and infant morbidities were similar. Early treatment with metformin is a safe treatment option for GDM.

OC9 Living with diabetes in Ireland: findings from the Diabetes Ireland survey on experiencing, accessing and using diabetes health services by people with diabetes.

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An anonymised online survey of adults with diabetes and parents/carers of children with diabetes was conducted between 16/1/2023-5/2/2023 via social media and standard online communication to ascertain their experiences of living with diabetes in Ireland. The survey was based on a UK National Diabetes Audit 2013-14, developed and adapted to the Irish context, including sections relating to diabetes medical history, annual check-ups, access to treatment and specialist care and health services use. Descriptive statistics were performed with SPSS. The survey was completed by 497 adults and 120 parents/carers. Of adults with diabetes, 230 had type 1, 155 type 2 and 12 other types of diabetes. Generally, people rated their health and well-being as good, but one-third assessed it as poor/very poor. Among adults, 36.5% reported diabetes-related complications and comorbidities, usually hypertension (22.7%), retinopathy (22.7%), hypothyroidism (16.6%) and mental health-related (13.9%). DKA was experienced by 40% of adults and children with type 1 diabetes and 44.8% of adults had severe hypoglycaemia. Most respondents (75.7%) had not discussed their mental health as part of diabetes care, although 47.4% of them would have liked to. Care was accessed by the majority in the public system but 19.6% of type 1 and 46.2% of those with type 2 diabetes pay privately for diabetes care. This Diabetes Ireland survey, which is the first of its kind to explore the experiences of those living with diabetes and access to diabetes services, will inform the key stakeholders and policy-makers about diabetes care and its gaps in Ireland.

OC10 Safety, tolerability and preliminary efficacy results of ORBCEL-M - a novel mesenchymal stromal cell therapy - in diabetic kidney disease: The multicenter, randomized, placebo-controlled, phase-1b/2a NEPHSTROM clinical trial

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Mesenchymal stromal cells (MSC) are candidates for treatment of diabetic kidney disease (DKD). NEPHSTROM is a randomized, placebo-controlled, double blind, dose-escalation phase 1b/2a clinical trial of bone marrow-derived, antibody-purified allo-CD362⁺ MSC (ORBCEL-M) in adults with type 2 diabetes, DKD and eGFR 25-55 ml/min/1.73 m². We report the experience with the first dose cohort [single i.v. infusion of ORBCEL-M 80x10⁶ cell (n=12, group A) or placebo (n=4, group B)], enrolled at 3 sites in Italy, Ireland and UK, and followed-up for 18 months. Mean baseline measured GFR (mGFR, iohexol clearance) and estimated GFR (eGFR) were comparable between the two groups. The trial intervention was well tolerated and safe, with no SAEs ascribed to trial product. Two patients in group A died of unrelated causes. Serial serum assays for anti-HLA antibodies indicated low-level allo-immune sensitization in a patient from month 3. The median annual rate of renal function decline by mGFR (secondary outcome) was numerically lower in group A than group B; by eGFR this was statistically significant eGFR – ml/min/1.73m² per year: -2.6 (-4.2, -0.3) Orbccl M group versus -8.7 (-11.4, -4.6) placebo group; p value 0.034.

Immunological profiling provided evidence of preservation of circulating regulatory T cells, lower NKT cells and stabilization of inflammatory monocyte subsets in recipients of cells compared to placebo. In summary, for subjects enrolled into the low-dose cohort of the NEPHSTROM trial, the safety and tolerability of ORBCEL-M was established and over 18 months, rate of decline of eGFR was less for recipients of cells.

OC11 Inpatient thyroid function testing and the pressing need for rational ordering

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Thyroid Function Tests (TFTs) are frequently performed on hospitalised patients, but the results may be unreliable in patients who are unwell or receiving particular medications. Indiscriminate testing is an unnecessary burden on the patient and the laboratory, while clinicians may find it difficult to interpret discordant results. We investigated the ordering of TFTs over five weeks in Connolly Hospital to determine the indication for testing and the proportion of abnormal results. TFTs were included in the audit if ordered on an in-patient or at the point of admission. 550 TFTs met criteria and charts were obtained for 540. The study population comprised 447 individual patients of whom 225 (50.3%) were female. Mean age was 65 ± 19 years. 363 (81%) had no history of thyroid disease. Mean TSH was 3.5 ± 12.6 mU/L, mean fT4 16.4 ± 5.5 pmol/L. The most common indication for testing was atrial fibrillation (20%, n = 109) but 51 tests (9.4%) had no identifiable indication. 143 (26.5%)

results were abnormal, but no follow-up could be identified for 119 (83%) of these. 416 (77%) of the TFTs were ordered on a patient taking one or more medications that may affect TFT results. Our results confirm that many TFTs are unwarranted and that abnormal TFTs are often not followed up. This fact, combined with the dubious utility of testing in patients with intercurrent non-thyroidal illness, suggests that there is a need to encourage a more rational ordering of TFTs in the in-patient population.

OC12 Altered metabolism persists 10 years following metabolic complications in pregnancy – a secondary analysis of the ROLO longitudinal cohort study

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Pregnancy is a physiological “stress test” for women’s health, where physiological maladaptations to pregnancy associate with future risk of chronic metabolic disease. Pregnancy and the puerperium represent a unique opportunity to engage women in order to improve long-term cardiometabolic outcomes. We hypothesise that metabolic alterations which become evident in pregnancy will be associated with lasting effects on maternal metabolism. This analysis is of a prospective longitudinal birth cohort study of 338 mothers examined 10 years after being recruited in early pregnancy. The original ROLO (Randomized contrOLled trial of Low GI diet in pregnancy) study was designed as a two-arm randomized controlled trial of low-GI diet versus standard diet in secundigravid women with a previous delivery of a >4kg baby. Non-fasting blood samples were collected 10 years postpartum for clinical biochemistry analysis. Statistics, including independent samples t-tests and Mann-Whitney U tests, were performed using SPSS Version 27. Women who experienced metabolic derangements in pregnancy (n=93), including pregnancy-induced hypertension (8/93), impaired glucose tolerance (70/93) or gestational diabetes (15/93), were compared to women with uncomplicated pregnancies (n=245). Metabolic complications in pregnancy were associated with significantly (p<0.05) higher serum total cholesterol, LDL cholesterol, total triglycerides and glucose values 10 years postpartum. No impact of the dietary intervention on metabolic health was evident 10 years postpartum. In conclusion, metabolic alterations noted in pregnancy are associated with persistently elevated serum cholesterol, triglycerides and glucose which persist 10 years postpartum. Pregnancy complications should be incorporated into risk factor screening for later life metabolic disease.

OC13 To Evaluate the Concordance between Calcium to Creatinine Clearance Ratio using Fasting Second Void Spot Urine Sample versus 24-hr Urine Collection in Patients being Investigated for Hypercalcaemia.

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Introduction

Calcium creatinine clearance ratio (CCCR) is used when investigating parathyroid hormone (PTH)-mediated hypercalcaemia to differentiate Primary Hyperparathyroidism (PHPT) from Familial Hypocalciuric Hypercalcaemia (FHH). It has been established that CCCR using 24-hour urine collection is the most reliable urinary calcium assessment for this purpose with a value >0.01 excluding FHH. For practical reasons, some clinicians advocate spot urine use instead. The aim of this study was to assess concordance of patients’ CCCR using 24-hour versus spot urine collection.

Methods

100 outpatients attending a single centre with PTH-mediated hypercalcaemia were prospectively recruited. Each participant completed 24-hour urine collection and mid-stream spot urine sample. Dietary calcium was assessed using a standardized questionnaire. CCCR was calculated as: $\text{Urine Calcium (mmol/l)} \times [\text{Serum Creatinine (umol/l)} / 1000] / \text{Serum Calcium (mmol/l)} \times \text{Urine Creatinine (mmol/l)}$. Patients were stratified into two groups based on 24-hour urine ratio; <0.01 suggestive of FHH, requiring genetic testing and >0.01 suggestive of PHPT.

Results

23% of patients had CCCR leading to discordant classification. For those with 24hr CCCR of <0.01, 17.39% of spot sample ratios did not correlate. For ratios >0.01, 24.66% of samples were discordant. Mean daily calcium intake was 645mg. 19% were vitamin D deficient (<50nmol/L).

Conclusions

24-hour and spot urinary CCCR show clinically significant discordance for 1 in 4 patients. Subgroup analysis for vitamin d status or calcium intake did not enhance correlation. Spot urine CCCR in this cohort underestimates CCCR relative to 24-hour collection and may lead to unnecessary genetic testing. Therefore, 24-hour urinary CCCR should remain the assessment standard.

OC14 Diagnostic Utility of ¹¹C-Methionine PET/CT in Primary Hyperparathyroidism for Localizing Parathyroid Adenomas in a Large UK Cohort: a Single-Center Experience and Literature Review

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Primary hyperparathyroidism is a common endocrine disorder, with 80% of all cases usually caused by one single hyperfunctioning parathyroid adenoma. Conventional imaging modalities for the diagnostic work-up of primary hyperparathyroidism (PHPT) include ultrasound of the neck, ^{99m}Tc-sestamibi scintigraphy, and four-dimensional computed tomography (4D-CT). However, the role of other imaging modalities, such as ¹¹C-methionine PET/CT, in the care pathway for PHPT is currently unclear. Here, we report our experience of the diagnostic utility of ¹¹C-methionine PET/CT in a single-center patient cohort (n = 45).

The data of eligible patients that underwent ¹¹C-methionine PET/CT between 2014 and 2022 at Addenbrooke's Hospital (Cambridge, UK) were collected and analyzed. The clinical utility of imaging modalities was determined by comparing the imaging result with histopathological and biochemical outcomes following surgery.

In patients with persistent primary hyperparathyroidism following previous surgery, ¹¹C-methionine PET/CT identified a candidate lesion in 6 of 10 patients (60.0%), and histologically confirmed in 5 (50.0%). ¹¹C-methionine PET/CT also correctly identified a parathyroid adenoma in 9 out of 12 patients (75.0%) that failed to be localized on other imaging modalities. ¹¹C-methionine PET/CT had a sensitivity of 70.0% (95% CI 55.8 - 84.2%) for the detection of parathyroid adenomas.

This study highlights a diagnostic role for ¹¹C-methionine PET/CT in patients that have undergone unsuccessful prior surgery or have equivocal or negative prior imaging results, aiding localization and a targeted surgical approach.

ORAL PRESENTATIONS- CASE REPORTS

CR1 MCM4 deficiency causing Natural Killer and Glucocorticoid Deficiency with DNA repair defect (AR-NKGCD); experience from the Irish Traveller Community

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A new condition, autosomal recessive natural killer and glucocorticoid deficiency (AR-NKGCD), was first described in Irish Travellers in 2008 and was attributed to recessive mutations in *MCM4/PRKDC* gene in 2012. AR-NKGCD is characterised by short stature, glucocorticoid and NK cell deficiency, and is a disorder of DNA repair. Experience of the condition has expanded at our centres, as more cases have been confirmed.

Data from available medical, laboratory, genetic and radiology records on patients attending our centres over the past 10 years was compiled. Sequencing analysis of intron 1 of the *MCM4/PRKDC* gene in all patients (n=19) revealed the presence of the c71-2A>G p.(Phe24Argfs) mutation in the homozygous state. In whom data was available, all were born small for gestational age, birth weight between 0.4th – 2nd centiles, all had delayed bone age, short stature and low weight.

Most children had mild dysmorphic features. Feeding difficulties, failure to thrive and recurrent infections were observed in infancy and young childhood. Fatigue, hyperpigmentation and development delay were also observed.

Over 60% required corticosteroid replacement (hydrocortisone doses range 9-15mg/m²), in others only emergency treatment was recommended. Mineralocorticoid secretion was not impaired. Over 80% had raised ACTH levels. A serious adrenal crisis following infection occurred in three patients. Three patients developed haemophagocytic lymphohistiocytosis, one of whom died. One patient developed an osteosarcoma.

AR-NKGCD is a rare disorder with a variable phenotype. There is an increased risk of primary adrenal insufficiency, adrenal crisis, infection, malignancies and premature death. Input from endocrinology and immunology specialists is required.

CR2 Therapeutic plasma exchange as a bridge therapy to total thyroidectomy in treatment-resistant amiodarone-induced thyrotoxicosis

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Amiodarone-induced thyrotoxicosis (AIT) is challenging to manage where conventional medical treatment fails. We report our experience using therapeutic plasma exchange (TPE) to prepare for salvage thyroidectomy.

A 53-year-old gentleman was diagnosed with AIT type 2 (FT4 45.3pmol/L, TSH 0.02mU/L) whilst on amiodarone, on a background of lamin A/C cardiomyopathy. He remained thyrotoxic despite carbimazole, prednisolone, Lugol's iodine and cholestyramine. TFTs following 4 TPE sessions showed an improvement in TSH (0.03mU/L) and total T4 (129nmol/L), despite rising FT4 (91.5pmol/L) and FT3 (12.56pmol/L).

A 47-year-old gentleman was diagnosed with TRAb-negative AIT type 1 (FT4 51.2pmol/L, TSH 0.03mU/L) on a background of atrial fibrillation treated with amiodarone. He became progressively more thyrotoxic despite carbimazole, prednisolone, lithium and cholestyramine. Following 4 TPE sessions, TFTs demonstrated a reduction in FT4 (42.9pmol/L) and FT3 (10pmol/L), along with normalisation of total T4 (155nmol/L).

Lastly, a 56-year-old lady was diagnosed with AIT type 2 (FT4 33.9pmol/L, TSH 0.02mU/L), whilst on amiodarone for ventricular fibrillation. She became rapidly and progressively more thyrotoxic despite carbimazole, prednisolone, Lugol's iodine and cholestyramine (FT4 >100pmol/L). After 5 TPE sessions, TFTs showed a persistently elevated FT4 (>100pmol/L), FT3 (13.1pmol/L), and total T4 (318nmol/L).

All 3 patients underwent successful thyroidectomy and were subsequently rendered euthyroid with thyroxine. TPE was beneficial as a bridge to thyroidectomy in treatment-resistant AIT. The biochemical response is variable and should be interpreted taking factors that may cause displacement of bound thyroid hormones (e.g. heparin), into account. Total T4 may be a better biochemical indicator of response than free thyroid hormone(s).

CR3 “Werner Syndrome Foot” – A Case Series of Four Irish Traveller Siblings with Werner Syndrome, Diabetes Mellitus and Complex Foot Disease

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Werner Syndrome is a rare premature aging autosomal recessive disorder caused by pathogenic variants in the *WRN* gene. Patients with Werner Syndrome develop diabetes mellitus. Chronic foot ulceration is seen, with some characteristics overlapping with diabetic foot disease. However, the clinical course of the ulceration is atypical of diabetic foot disease. We present four siblings from an Irish Traveller family with Werner Syndrome. The Irish Traveller population are an indigenous, endogamous population in which consanguinity is common. As a result, rare autosomal recessive disorders are prevalent amongst this population. We describe our experience managing the complex foot disease seen in all four siblings. Foot complications present in the siblings include painful peripheral neuropathy, chronic foot ulceration, underlying osteomyelitis and acral melanoma. Although the siblings attend a diabetic foot clinic, we suggest that this combination of clinical features is unique to Werner Syndrome and warrants the title ‘Werner Syndrome’ (rather than ‘Diabetic’) foot.

CR4 Iopanoic acid for pre-operative preparation for total thyroidectomy in patients with thyrotoxicosis: a case series

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Iopanoic acid (IOPA) is a safe, previously widely-available, oral cholecystographic contrast agent used to control hyperthyroidism. It enables blockade of hepatic type I deiodinase thereby inhibiting T4 to T3 conversion. Newer gallbladder imaging modalities have led to cessation of its manufacture. We reviewed clinical and biochemical data from a series of patients treated with pre-operative IOPA due to intolerance to or failure of other therapies.

With prior permission of our Drug & Therapeutics Committee, we sourced laboratory-grade (99% pure) IOPA and administered this preoperatively to control life-threatening hyperthyroidism, not responding to other therapies (Lugol’s iodine, steroids, high-dose thionamides) in patients with amiodarone-induced thyrotoxicosis (AIT) (n=5), Graves’ disease (n=4), toxic multinodular goitre (n=1) and resistance to thyroid hormone beta (n=1). Patients were treated between 2014-2023.

All patients had significant thyrotoxicosis at baseline (mean fT4 59.4 mU/L (range 10.5-21), mean fT3 12.1 mU/L (3.5-6.5)) and were treated with IOPA for an average of 6 days before urgent/emergency thyroidectomy. FT3 declined in all and normalised within 42hrs in 8/11. Reduced platelet counts in 3 cases (103, 105 and 92 x10⁹/L) predated IOPA therapy and were likely related to coexistent pulmonary hypertension and thyrotoxicosis. IOPA was well tolerated with no gastrointestinal side effects or deterioration in liver function; renal function remained normal except in one patient who had high-dose frusemide for cardiac failure. A single postoperative death was due to hospital-acquired pneumonia.

IOPA is a highly effective and safe agent for controlling biochemical thyrotoxicosis refractory to other agents, as a prelude to thyroid surgery.

CR5 Delayed puberty as a core feature of DNA polymerase epsilon (pole) deficiency – The Irish Experience

Claire Reynolds¹, Sally Ann Lynch¹, Colin P. Hawkes², Ronan Leahy¹, Mark Sherlock³, Susan M. O’Connell^{1,4}

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Pathogenic biallelic variants in the gene encoding DNA polymerase epsilon catalytic subunit of PolE, have been described to date in 15 individuals from 12 families, including members of 3 Irish families. These loss-of-function (LOF) mutations cause POLE deficiency, impairing DNA replication. All reported cases share the same heterozygous intronic variant (c.1686p32C>G) as part of a common haplotype, in addition to a different LOF variant in the other allele. Clinical features resemble IMAGE syndrome (intrauterine growth restriction metaphyseal dysplasia, adrenal hypoplasia congenita, and genitourinary anomalies [in males]). Individuals have distinctive facial features and immunodeficiency characterised by lymphocyte depletion often not clinically apparent. We report 3 cases; two females aged 44 and 14.5 years respectively, and one boy aged 15 years (cases 1, 2 and 3). All had pubertal delay. Case 1 attained menarche age 22 years. She had a normal LHRH stimulation test, despite absent breast development. Case 2, now 14.5 years, has no breast development, pubertal oestradiol and gonadotrophin levels, and remains pre-menarchal. The boy underwent pubertal induction with testosterone aged 15 years. Insulin resistance was found in all 3, with evidence of hyperinsulinemia, abnormal lipids and glucose tolerance in cases 1 and 3. POLE deficiency is a newly described condition of primordial dwarfism and adrenal insufficiency. Severe delayed puberty despite an apparently normal hypothalamic pituitary gonadal axis, and insulin resistance, are features which have not been previously described.

Logan CV, et al. (2018) DNA Polymerase Epsilon Deficiency Causes IMAGE Syndrome with Variable Immunodeficiency. Am J Hum Genet. DOI: [10.1016/j.ajhg.2018.10.024](https://doi.org/10.1016/j.ajhg.2018.10.024)

CR6 Treatment resistant hyponatraemia due to SIADH.

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A 73 year old male presented to the medical assessment unit with an episode of seated syncope. Blood tests revealed significant hyponatraemia of 110mmol/L. He was clinically euvolaemic with serum osmolality 255mmol/kg, urine osmolality 497mmol/kg, urinary sodium 71mmol/L, consistent with SIADH. Synacthen test was normal. He did not respond to fluid restriction and was commenced on tolvaptan 3.75mg OD. CT TAP and PET-CT showed bronchogenic carcinoma with multiple liver metastases, bone and adrenal metastases. Liver biopsy confirmed high grade small cell lung cancer. Sodium improved to 131mmol/L with tolvaptan. Due to difficulties funding tolvaptan in the community he was discharged on demeclocycline 300mg BD. 11 days following discharge, he was readmitted a sodium of 107mmol/L. He reported difficulty sourcing demeclocycline in the community so was not receiving any treatment following discharge. He again did not respond to fluid restriction. Oral urea with oral sodium supplementation was also unsuccessful. He was recommenced on tolvaptan but sodium was minimally responsive despite uptitration in tolvaptan dose to 45mg OD. He required 3% saline infusion over four days to increase sodium to 126mmol/L, followed by high dose tolvaptan to maintain this. He then received his first cycle of carboplatin and etoposide. One week following chemotherapy he developed neutropenic sepsis, which coincided with full normalisation of serum sodium without any requirement for tolvaptan. Sodium has remained normal following recovery from neutropenic sepsis. Failure to respond to tolvaptan is very rare in SIADH, and linked to poorly differentiated malignancy with low survival rates.

POSTER PRESENTATIONS

(NB: Please note Posters 1-10 and 22-51 will be presented during the poster session on Friday 24th November 1330-1500. Posters 11-21 and 52-80 will be presented during the poster session on Saturday 25th November 1015-1100)

P1 Acute intermittent porphyria in a pregnant lady with hyponatraemia

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A 27 year-old lady, seven weeks gestation presented to ED during her second pregnancy with abdominal pain, vomiting, constipation and hyponatraemia (Sodium = 114mmol/l). She had attended twice earlier during her pregnancy with presumed hyperemesis gravidarum. Because urinary sodium was elevated at 181mmol/L, dehydration was deemed unlikely and she was initially treated as SIADH with 1.2L fluid restriction and 2.7% 200mls hypertonic saline. Repeat sodium next day had dropped further to 112mmol/L, following which a further 2.7% saline bolus was given. Sodium remained refractory to this, despite being followed up by a 500ml 1.8% saline infusion at 50mls/hour. Her abdominal ultrasound was unremarkable. Starvation ketosis without acidosis was noted. A porphyria screen was requested at this stage, which was suggestive of acute intermittent porphyria. The patient was transferred to HDU for haem arginate infusion 3mg/kg daily for 4 days. Fluid restriction was lifted and she was given 0.9% saline for the remainder of her admission and sodium normalised. No neurological or respiratory deficit was noted during her admission. Results: Osmolality(serum)=237mOsm/kg [Ref.275-295(mOsm/kg)], Osmolality(urine)=587mOsm/kg

Urea=1.4mmol/L(2.5-7.8mmol/L), Urine(Na)=181mmol/L, Ketones=3.6mmol/L

Urine porphobilinogen=559.8 (0-10.7 umol/L), PBG/Creatinine=64(<1.5umol/mmol). AIP (Acute intermittent porphyria) is rare autosomal dominant condition characterised by partial deficiency of the enzyme hydroxymethylbilane synthase, which results in the accumulation of porphyrin precursors. It can be triggered by various factors such as hormonal changes, fasting, infections, medications and alcohol. Although AIP is a very rare disorder, this case highlights the need to consider porphyria as a differential diagnosis in a patient with abdominal pain and refractory hyponatraemia.

P2 Use of Metoclopramide to Induce Lactation in a Post-Partum Female with Panhypopituitarism

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Lactation is under the control of the anterior and posterior pituitary via prolactin and oxytocin release. Several galactagogues, including dopamine antagonists, have been described and used with success in lactation induction. To date, there are no reports in the literature of their use in patients with panhypopituitarism.

We present the case of a forty-year-old female with a background of anterior panhypopituitarism and AVP deficiency associated with a hypoplastic pituitary. She underwent in-vitro fertilisation and delivered a pre-term baby boy at 30+1/40 gestation via spontaneous vaginal delivery. She expressed wishes to breast-feed post-partum. Metoclopramide 10mg TDS was commenced and continued during the breast-feeding period. This was well-tolerated with neither maternal side effects nor adverse neonatal outcomes. The patient expressed 40ml/three hours breastmilk on average with a maximum of one supplemental feed required per day.

One week after breastfeeding was stopped, the patient suffered a seizure secondary to acute hyponatraemia, serum sodium 112mmol/L, urine sodium 84mmol/L, serum osmolality 239mmol/kg, urine osmolality 371mmol/kg, clinically euvolaemic. Oral fluid intake had been increased during the breastfeeding period and, after stopping breastfeeding one week prior, she had not resumed pre-breastfeeding levels of fluid intake. This resulted in additional free fluid absorption while on regular Desmopressin and a positive fluid balance.

There are few, small randomised control trials studying galactagogue use in mothers of preterm infants with insufficient milk supply. Their use for lactation induction in this cohort remains 'off-label'. Further studies are required in women with panhypopituitarism to establish safety and efficacy.

P 3 Eplerenone monotherapy in paediatric 11 beta-hydroxylase deficiency

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11 β -hydroxylase deficiency (11 β OHD) is a rare form of congenital adrenal hyperplasia (CAH). Hypertension is reported in up to two-thirds of cases, with deoxycorticosterone and 11-deoxycortisol excess suggested as the cause. Traditional management comprises glucocorticoid suppression of ACTH, causing reduced levels of androgen and mineralocorticoid precursors. We present a case of 11 β OHD where mineralocorticoid receptor antagonism with eplerenone monotherapy was used.

An adolescent male was diagnosed with 11 β OHD when he presented with hypertension. Initial treatment included glucocorticoids and a combination of anti-hypertensive agents. Although blood pressure normalised, the patient sought an alternative treatment to glucocorticoids. Eplerenone was commenced, and was successful in controlling blood pressure. Serum levels of 11-deoxycortisol were monitored, and noted to be elevated.

Glucocorticoid therapy in children can have adverse effects on linear growth. Aldosterone receptor antagonism may represent an alternative approach to hypertension management in 11 β OHD, but is not without limitations. Selective mineralocorticoid receptor antagonists such as eplerenone do not induce negative-feedback on ACTH. Long term consequences of increased steroid precursors are unknown. Life expectancy in patients with CAH treated with long-term steroids is however reduced, demonstrating that current treatment approaches are also flawed.

P4 Recurrent Thrombocytopaenia in Graves' Disease

Rayanna Maraj¹, Rachel Byrne¹, Liam O Murchadha¹, Marie- Louise Healy¹ and Niamh Phelan¹

¹Department of Endocrinology, St. James' Hospital, James' Street, Dublin.

A 37-year-old male presented with 12kg weight loss. Hyperthyroidism was confirmed, TSH¹:<0.01mU/L (NR³:0.27-4.20), fT4²:64.7pmol/L (NR³:12-22) and carbimazole 30mg daily commenced. Graves' Disease (GD) was previously diagnosed at age 15 and treated with carbimazole for 4 years. 12 days later, a petechial rash emerged on his trunk and extremities. Platelet count was 22x10⁹/L (NR³:140-450) with an otherwise normal FBC⁴. Immune-mediated thrombocytopenia due to GD or ITP⁵ was postulated but due to the temporal relationship, carbimazole was discontinued. Bone marrow aspirate was consistent with peripheral platelet destruction. Definitive treatment of relapsed GD was planned with thyroidectomy and lithium started to manage thyrotoxicosis. 14 days later, petechial rash re-emerged with thrombocytopaenia (60x10⁹/L). Thyrotoxicosis persisted, TSH¹:<0.01mU/L, fT4²:28pmol/L. Lithium was discontinued, and platelets normalised after 4 days. He started Lugol's iodine and proceeded to thyroidectomy. Mild neutropenia occurs in 10% of new GD. Agranulocytosis is a recognised complication of anti-thyroid drugs resulting from bone marrow hypoplasia. However, thrombocytopaenia in GD is uncommon. Thyrotoxicosis is postulated to increase splenic platelet clearance by reticuloendothelial system activation. Molecular mimicry of autoantibodies between GD and ITP⁵ has been described. Drug-induced thrombocytopenia typically has abrupt onset and rapid resolution upon drug withdrawal. In our case, the temporal relationship with both carbimazole and lithium is undeniable; however, isolated thrombocytopaenia with carbimazole is exceedingly rare and lithium is a treatment for thrombocytopenia in myelosuppressed patients with only occasional reports of thrombocytopenia in severe toxicity.

¹TSH: Thyroid Stimulating Hormone, ²fT4: Free thyroxine, ³NR: Normal Range, ⁴FBC: Full Blood Count, ⁵ITP: Idiopathic Thrombocytopaenic Purpura

P5 Diabetes Insipidus and Compressive Thyroid Enlargement in Adult Multi-Organ Langerhans Cell Histiocytosis

Merah Al Busaidy, Robert P McEvoy, Michael O'Reilly, Dawn Swan, Amar Agha

Beaumont Hospital, Dublin

Langerhans Cell Histiocytosis (LCH) is a rare, neoplastic histiocytic disorder that is exceptionally rare in adults. LCH can present as a single or multi-site disease (mostly bone/skin). The most frequent endocrine abnormality associated with LCH is Arginine Vasopressin Deficiency (AVP-D) followed by growth hormone and gonadotropin deficiency. We present the case of a previously healthy 34-year-old female with complex, sequential multi-system involvement. She initially presented with a spontaneous pneumothorax and jaundice due to severe liver dysfunction. This was managed with a chest drain and video assisted thoracoscopic surgery (VATS) pleurodesis. Further imaging revealed hepatic cystic lesions, hepatosplenomegaly,

severe cystic lung disease and a diffusely enlarged thyroid causing narrowing of the trachea and jugular veins. Following urgent thyroid surgery, histology showed LCH. Subsequently, she developed hypotonic polyuria, severe polydipsia, and subclinical thyrotoxicosis. Daily fluid intake was up to 6.5L with output reaching 9.5L. Desmopressin was commenced for AVP-D with good response. MRI pituitary showed thickening and enhancement of infundibulum which although nonspecific, is supportive of LCH. Biochemical pituitary testing showed suppressed gonadotropins, low Insulin-like Growth Factor 1, subclinical hyperthyroidism and normal morning cortisol. Treatment with Cladribine and Prednisolone was initiated. Desmopressin dose and fluid balance has required regular adjustment during the chemotherapy treatment. She continues to have significant complications including surgical emphysema, dysphagia, and persistent pneumothorax. LCH should be considered in the differential diagnosis of Diabetes Insipidus associated with pituitary stalk thickness. Multi-disciplinary care involving endocrinology is an essential part of care for LCH patients.

P6 The use of BRAF and MEK inhibitors in locally invasive papillary thyroid carcinoma

Robert P McEvoy, Liam Grogan, James P O'Neill, Clare Faul, Amar Agha

Beaumont Hospital, Dublin, Ireland

BRAF and MEK inhibitors are approved for the treatment of anaplastic thyroid carcinoma, but data are limited regarding their use in locally advanced papillary thyroid carcinoma (PTC). We present a case of locally advanced, partially resectable PTC with a good response to dabrafenib (BRAF inhibitor) and trametinib (MEK inhibitor), as part of a multimodality treatment. A 55-year-old man of Southeast Asian origin presented with a 2-week history of an enlarging left-sided neck mass. CT revealed a 13x9x5.2 cm, ill-defined, heterogeneous, solid, necrotic neck mass, with mediastinal extension and bulky cervical adenopathy. PET-CT confirmed FDG avidity with no distant metastases. Cytology from FNA was consistent with PTC. Total thyroidectomy was planned; however, complete excision of the mass was not possible due to left carotid artery encasement. Histology confirmed PTC with gross extra-thyroidal extension, vascular invasion, and a poorly differentiated component in the left strap muscle (pT4bN1bM0). The BRAF V600E mutation was detected. Following MDT discussion, targeted therapy with dabrafenib and trametinib was commenced. External beam radiotherapy was also administered (70 Gy in 35 fractions). Repeat imaging 6 months post-operatively showed significant disease bulk reduction. Subsequent treatment with I-131 radioactive iodine was performed at 8 months, 16 months, and 21 months post-operatively. Two years later, the patient remains on targeted therapy and has had a favourable response. Thyroglobulin level has been suppressed from 434.5 µg/L (post-operatively) to 2.5 µg/L, with stable but significantly reduced tumour bulk. This case illustrates that BRAF and MEK inhibitors may be considered for BRAF-positive locally invasive PTC.

P7 Oestrogen Induced Hypertriglyceridemia and Acute Pancreatitis in a Transgender Female.

Cliona L. Todd, Brian Carthy, Abdelwahab Suleiman

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Hypertriglyceridemia is a rare cause of acute pancreatitis. Exogenous oestrogen has been associated with hypertriglyceridemia induced pancreatitis in women taking hormone therapy. However, this has not been well described in biologically male individuals undergoing female gender affirmation therapy. We describe a case of a 22-year-old transgender female who presented with acute epigastric pain, anorexia and nonbilious vomiting while undertaking hormonal therapy for transitioning. Her triglycerides were >50mmol/L and her serum amylase was normal on admission. This patient had a BMI of 42, and no significant other health issues. The patient attended an online transgender clinic based in the UK. Prior to admission she was taking citalopram, finasteride, topical and oral oestrogen. A computerised tomography scan confirmed the diagnosis of acute pancreatitis and detected a liver lesion. A MRI and liver biopsy found this lesion to be a focal nodular hyperplasia, which has been linked to increased systemic oestrogen. The goal of treatment was to lower the triglyceride levels. She was treated for 12 days in hospital with intravenous fluids, subcutaneous insulin, antibiotics, and her oral oestrogen was held. She was diagnosed with acute pancreatitis secondary to hypertriglyceridemia due to oral oestrogen therapy, on a background of high BMI and undiagnosed type 2 diabetes mellitus. While the pancreatitis resolved, she has not restarted the oral oestrogen therapy due to the risk of recurrence. This case outlines some of the possible complications that physicians and patients can be made aware of from oestrogen-induced-hypertriglyceridemia.

P8 Novel FGFR1 Variant Associated with Delayed Puberty and Hypogonadotropic Hypogonadism.

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Loss-of-function mutations in FGFR1 gene cause variable HH phenotypes encompassing pubertal delay to idiopathic HH (IHH) or Kallmann syndrome (KS). This case describes a boy with normal pubertal onset followed by poor pubertal progression rather than the classical presentations of either absent or delayed puberty. The proband is a male patient who presented at birth with cryptorchidism and hypospadias, which were surgically corrected. At nine months of age, testosterone injections were administered due to concerns regarding a short penis. Following routine review through childhood he exhibited normal age of onset of puberty at 13 years with appropriate hormone levels for age and stage of puberty. He displayed early pubertal changes including testicular enlargement and secondary sexual characteristics but a subsequent failure to progress through puberty. Further comprehensive endocrine evaluations confirmed HH, with poor gonadotropin secretion. Growth remained normal and the mid parental height was attained. Formal smell assessment is awaited. Genetic Analysis: Genetic testing revealed the presence of a novel FGFR1 variant, c.2153G>A; p.Arg718His, likely pathogenic and consistent with HH. Parental genetic testing was negative confirming spontaneous mutation. This case underscores the clinical importance of genetic analysis in pubertal assessment and suggests a role for genetic panels in cryptorchidism and hypospadias. The identification of a novel FGFR1 variant expands the knowledge of genotype-phenotype correlation for HH. Management includes testosterone therapy with consideration for gonadotropin treatment to optimize testicular development and future reproductive function.

P9 A case report of androgen excess secondary to a benign sex cord stromal tumour

Lauren Madden Doyle, Lisa Owens

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Androgen excess in premenopausal women can present a diagnostic challenge. While the majority occurs in the context of polycystic ovary syndrome, alternate pathology should be considered. We present a case of rapid onset hirsutism secondary to a benign ovarian stromal cell tumour. A 26 year-old was referred for assessment of accelerated hirsutism over 18 months, on a background of longstanding mild hirsutism. Additional symptoms included scalp hair loss, cystic acne, new oligomenorrhoea and weight gain. Medical history was significant for a suspected large uterine fibroid and right ovarian cystectomy for serous cystadenoma. Examination revealed diffuse hirsutism, mild facial acne, scalp hair thinning, with no cushingoid features. Biochemical assessment demonstrated high Testosterone (T) 6.06 nmol/L (0.3-1.9nmol/L). FSH was suppressed at 0.3 IU/L, with normal LH and E2. AMH was >164pmol/L. DHEAS, androstenedione, overnight dexamethasone suppression test and stimulated 17OHP were normal. MRI pelvis identified a 12cm left ovarian lesion. Suspicion was for an androgen secreting ovarian tumour, and that previous diagnosis of fibroid was incorrect. She underwent unilateral oophorectomy and salpingectomy. Histology confirmed a 20cm sex cord stromal tumour. Post operatively, she experienced reduction in hirsutism, scalp hair restoration and restored menstrual cycles. Post-operative biochemistry showed T 0.53nmol/L, FSH 1.6IU/L, LH 4.8IU/L, E2 753pmol/L, AMH 5.16pmol/L. Ovarian stromal cell tumours are a rare cause of female hyperandrogenism, accounting for 8% of all primary ovarian tumours, and associated with steroid hormone production. They represent a potentially curative form of androgen excess, and should be considered with rapid onset virilisation.

P10 Imaging and Histological Characteristics of an Acidophil Stem Cell Adenoma (ASCT) – A Rare Cause of a Locally Aggressive Pituitary Adenoma.

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ASCT is an extremely rare subtype of invasive plurihormonal pituitary adenoma which typically shows an anatomical inferior growth pattern with invasion through the sella floor into the sphenoid sinus. A 42 year-old female who presented to the ENT clinic with dysphagia and was found on flexible endoscopy to have a sphenoidal mass. Subsequent pituitary MRI confirmed a large sella lesion with extensive local invasion involving the clivus, left orbital apex, left cavernous, sphenoid and ethmoid

sinuses. Goldman Perimetry assessment was normal. Biochemical evaluation of her pituitary hormones was normal including prolactin 272 mIU/L(102-497), TSH 1.7mU/L(0.27-4.2), FT4 18.1pmol/L(12-22), FSH 4.9U/L, LH 6.7U/L and IGF-1 slightly raised at 206ng/ml(61.5-204.4). She was considered to have a non-functioning pituitary macroadenoma. Given the invasive nature of her sella lesion transphenoidal surgery was performed. Post operatively her recovery was uneventful. Due to the aggressive nature of her pituitary lesion as well as a family history of pituitary lesions (uncle and cousin) gene test was requested, result of which is pending. Histologically the tumour was consistent with an ASCT with round, moderately pleomorphic nuclei with oncocytic changes and cytoplasmic vacuolation but no high grade features. The tumour was PIT-1 positive, with predominant prolactin immunoreactivity with scattered TSH and very occasional GH immunoreactivity. The tumour cells stained negative for GATA-3, TTF-1 and T-PIT. ASCT have been reported to show low biochemical endocrine activity due to cellular immaturity and this would account for our patient's normal prolactin level albeit a strongly positive prolactin immunoreactivity on immunochemistry.

P11 Incidental Pituitary Macroprolactinoma on Technetium-99M MIBI SPECT

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A 43-year-old male presented with sudden onset visual loss, associated with a frontal headache and loss of consciousness. Clinically, the man was alert and haemodynamically stable without focal neurological deficits. Urgent non-contrasted computed tomography brain showed a large pituitary mass with possible internal haemorrhage. On review, the patient was noted to have features of hypogonadism. Visual fields were intact. Magnetic resonance imaging of the pituitary showed a 3.8cm macroadenoma with necrosis encasing the right internal carotid artery. It was noted that two years earlier a parathyroid technetium-99m sestamibi (99mTc-MIBI) Single Photon Emission Computed Tomography (SPECT) was performed to investigate parathyroid hormone mediated hypercalcaemia. The scan reported an incidental "focus of intense intracranial sestamibi uptake in the midline which localised to the pituitary fossa". Biochemical evaluation supported the diagnosis of a macroprolactinoma (prolactin 208 949 mU/L) associated with central hypogonadism and hypothyroidism. A dopamine agonist was initiated in addition to levothyroxine hormone replacement. 99mTc-MIBI is a radioisotope imaging modality traditionally used for myocardial perfusion studies, now preferred for parathyroid imaging owing to its propensity to concentrate in metabolically active tissue. Limited reports exist of 99mTc-MIBI concentrating within pituitary incidentaloma. Based on limited evidence the isotope is preferentially taken up by the pituitary adenoma but not by normal pituitary tissue. 99mTc-MIBI has highest sensitivity and specificity at identifying functioning adenomas compared to non-functioning. This case illustrates the early detection of a prolactinoma by 99mTc-MIBI prior to it becoming clinically apparent and highlights the importance of investigating abnormal isotope uptake outside the parathyroid.

P12 Case Report: Osmotic demyelination syndrome responsive to potassium replacement.

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We present a 46 year old man who developed a locked-in syndrome 9 days after correction of profound hyponatraemia. He presented with an acute confusional state following seizure-like activity. His background included alcohol abuse, depression, and hypertension. He took venlafaxine 150mg (recently increased in the last 3 weeks), indapamide 2.5mg, and ramipril 5mg daily. His notable admission electrolytes included: Na⁺ 98mmol/L, K⁺ 1.9mmol/L, Cl⁻ 48mmol/L. He received 3% saline and modestly overcorrected his sodium from 98mmol/L to 108mmol/L in the first 24 hours, he subsequently had a daily sodium rise of <7mmol/L until sodium normalisation. On day 9 to 12 of his admission, he developed symptoms consistent with locked-in syndrome. Urgent MRI brain was consistent with central pontine myelinolysis. Over 14 days he maintained a persistent hypokalaemic (between 2.8mmol/L and 3.1mmol/L) metabolic alkalosis (pH >7.6, HCO₃⁻ >40mmo/L) despite receiving 80mmol/L K⁺ in 2000mls of 0.9% NaCl daily. Renin was non-suppressed and blood pressure was normal. Determining whether his metabolic alkalosis was chloride responsive or resistant proved difficult; urinary chloride was uninterpretable due to the nearly continuous IV replacement needed to maintain serum potassium. A decision was made to treat his metabolic alkalosis as chloride-responsive and treatment commenced with supplemental enteral chloride. The patient regained motor, speech and swallow function, pH normalised and K⁺ replacement stopped within 4 days of chloride administration. Later

investigations revealed severe exocrine insufficiency secondary to pancreatitis. We conclude this gentleman's hyponatraemia related demyelination was exacerbated by hypochloreaemic hypokalaemic metabolic alkalosis due to pancreatic exocrine insufficiency.

P13 Dapaglifozin for treatment of SIADH-induced hyponatraemia in an older patient with type 2 diabetes mellitus

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A 86-year-old lady with type 2 diabetes mellitus and recurrent admissions with symptomatic hyponatraemia due to idiopathic SIADH was readmitted with confusion, altered level of consciousness and an acute drop in serum sodium concentration despite reported compliance with the fluid restriction of 1.5L/day at home.

She was clinically euvolemic. Serum sodium was 120mmol/L and urea 8.7mmol/L. Urinary sodium and osmolality were 31mmol/L and 337mOsm/kg, respectively. Serum osmolality was 267mOsm/kg. Thyroid function tests were within normal limits and a morning cortisol was robust at 534nmol/L. Her HbA1c was 55mmol/L.

Despite supervised fluid restriction of 750mls to 1.5L/day over 5 weeks, serum sodium level fluctuated between 123-130mmol/L and she remained confused. Dapaglifozin 5mg/day was commenced on the 5th week. Serum sodium rose and remained between 132-134mmol/L over the following 20 days with fluid restriction continued at 1.5 litres/day. Family members were educated on sick day rules and possible side effects of dapaglifozin including ketosis, dehydration and genitourinary infection. Serum sodium concentration at 3 months post-discharge was 137mmol/L, in the normal range, without deterioration of urea and creatinine. Her mini-mental state examination score improved to 20/30 from 15/30 after commencement of dapaglifozin.

Up to 55% of patients with SIADH fail to adequately respond to fluid restriction alone. Inhibition of the SGLT-2 channel by SGLT-2 inhibitors leads to glycosuria, resulting in an osmotic diuresis and urinary free water excretion. This case illustrates that dapaglifozin can safely improve and maintain serum sodium concentrations and alleviate symptoms in an elderly diabetic patient with SIADH.

P14 Accessory renal artery – a potential etiology for high renin hypertension

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Secondary causes of hypertension are found in up to 10% of adults with hypertension. Renal causes of secondary hypertension most commonly include atherosclerotic renal artery stenosis, fibromuscular dysplasia and chronic kidney disease. However, there are few cases describing accessory renal arteries as a potential cause for secondary hypertension ¹.

We present a 30 year old male referred to Endocrinology from General Practice with severe hypertension. He had no relevant past medical or family history, normal BMI and normal renal function. Overnight dexamethasone suppression test was normal, outruling Cushing's syndrome. Urinary catecholamines and metanephrines were normal. Plasma renin concentration measured without the presence of interfering medications was markedly elevated at 255.3pg/mL (range 5.4 – 34.5). Aldosterone was 240pg/mL (range 67 – 335). MR renal angiography did not show any evidence of unilateral renal artery stenosis. However it revealed two renal arteries on the left which were both widely patent. The right renal artery was normal. His hypertension is now well controlled on eplerenone 50mg daily.

Several studies have shown an increased prevalence of accessory renal arteries in hypertensive patients being investigated for secondary causes of hypertension. However, this finding is not universal and there have been no large studies to investigate this hypothesis. This case is a rare example of an accessory renal artery contributing to high-renin hypertension.

1. Kem DC, Lyons DF, Wenzl J, Halverstadt D, Yu X. Renin-dependent hypertension caused by nonfocal stenotic aberrant renal arteries: proof of a new syndrome. *Hypertension*. 2005 Aug; 46(2): 380-5.

P15 A case of familial partial lipodystrophy due to a rare homozygous LMNA mutation.

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A 30-year-old woman was referred to our tertiary referral clinic with diabetes, dyslipidaemia and clinical features of bilateral axillary acanthosis nigricans, excess subcutaneous fat in the face and neck, and reduced subcutaneous fat in her arms, legs and trunk. There was no evidence of hirsutism or myopathy and she denied any history of menstrual irregularity.

Two first degree relatives were noted to have a similar physical appearance. Based on her clinical findings and suggestive family history a diagnosis of familial partial lipodystrophy (FPLD) was suspected. Genetic testing confirmed an extremely rare homozygous mutation for a LMNA missense mutation, pSer583Leu. To date fewer than 50 cases have been described in the literature.

Treatment with metformin (500mg tds) was successful and she achieved good glycaemic control (HbA1c 40mmol/mol). Seven years after diagnosis this patient became pregnant and required a basal-bolus insulin regime (0.7 units/kg per day). She achieved excellent glycaemic control throughout pregnancy. Lipids were monitored closely during pregnancy as statin therapy was held. The patient was educated regarding the symptoms of pancreatitis. She delivered a healthy male infant at 39 weeks' gestation and was counselled regarding the risk of her son developing features of insulin resistance due to her homozygous status.

This case report describes an extremely rare clinical scenario of a homozygous mutation for a LMNA missense mutation resulting in FPLD. It is one of the first descriptions of a pregnancy in a patient with this diagnosis and highlights that successful pregnancy outcomes are possible despite multiple increased risks.

P16 A Case Series- Malignant Struma Ovarii

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Struma ovarii is a rare form of ovarian teratoma with over 50% of its mass comprising of thyroid tissue. The majority are benign but malignant tumours are found in a small proportion.

We report two cases describing struma ovarii with papillary cancer.

Case 1: A 28 year old woman presented with abdominal pain, bloating and a previous diagnosis of left-sided struma ovarii. MRI pelvis demonstrated a right adnexal mass. She underwent elective right salpingo-oophorectomy, left ovarian biopsy and cystectomy and infracolic omentectomy. Histopathology of the right ovary revealed invasive follicular variant of papillary thyroid carcinoma arising from struma ovarii with metastatic spread to the right fallopian tube, left fallopian tube and omentum. She underwent total thyroidectomy with histopathology revealing thyroiditis. Following egg storage to preserve fertility she had ablative radioiodine.

Case 2: A 57 year old woman presented with abdominal pain and bloating. An abdominal CT demonstrated a right ovarian mass. She underwent diagnostic laparotomy, total abdominal hysterectomy and omentectomy. Histopathology of the right ovary revealed papillary thyroid carcinoma arising from struma ovarii. The management plan included thyroidectomy and subsequent radioiodine. Histopathology of thyroid gland revealed papillary thyroid carcinoma pT1a(m).

Struma Ovarii is usually diagnosed by histopathology after surgery for a presumed ovarian malignancy. The extent of surgery depends on the tumour extension and patient age. In case 1 egg storage was performed to preserve fertility. In malignant cases patients should have thyroidectomy and radioiodine therapy which also allows thyroglobulin to be used as a tumour marker.

P17 Cabergoline induced impulse control disorders

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Impulse control disorders are a well known side effect (SE) of dopamine agonist (DA) use in Parkinson's Disease but can also occur in pituitary disease even at low dose. The little data available shows prevalence rates 10-25%. SE include pathological gambling, hypersexuality, punding, binge eating, personality changes. We present three patients with behavioural changes due to cabergoline.

25 year old male with headache and eye pain. CT/MRI macroadenoma 57x45x45mm; prolactin >100,000mU/L; AIP gene positive. He started cabergoline 500mcg twice weekly. There were previous issues with mild depression and occasional gambling. These worsened significantly after cabergoline with GP concerned regarding personality change (£26,000 gambled over 2 weeks; mortgage repayments (on behalf of mother) stolen). Dose was reduced and symptoms improved significantly.

77 year old male with nasal symptoms. MRI macroadenoma 19x13mm; prolactin 14,449mU/L. He commenced cabergoline 250mcg twice weekly. There were significant behavioural changes with confusion, OCD, short temper, impulsive actions, such as, installing commercial CCTV to home after misplacing key for 15 minutes. Cabergoline stopped, symptoms settled and have not recurred on lower dose.

71 year old male with incidental macroprolactinoma; prolactin 9682mU/L; started cabergoline 250mcg twice weekly. Initially stable but required up-titration to 500mcg twice weekly. Obsession with gaming and pornography followed. Cabergoline was stopped and symptoms settled.

These cases highlight importance of screening/ counselling on SE prior to dopamine agonist use and of close follow up in this regard. As severity appears to be dose dependent, lower dose and close follow up should be considered particularly in at-risk patients.

P18 Multiple myeloma presenting as a non-functioning pituitary macroadenoma.

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A 75 year old male presented with a two week history of headache, diplopia, right eye ptosis and pain. His past medical history was significant for gastric adenocarcinoma treated with total gastrectomy three years previously and hypertension. Recent surveillance CT abdomen and pelvis did not identify recurrent disease. Examination revealed a partial right sided third nerve palsy. CT brain demonstrated an enlarged pituitary gland, suggestive of a pituitary macroadenoma. MRI brain revealed a 4cm locally destructive pituitary mass with compression of the 3rd cranial nerve, in keeping with a pituitary macroadenoma. Clinical and biochemical evaluation was consistent with a non-functioning lesion.

Urgent neurosurgical assessment was sought and trans-sphenoidal debulking of the pituitary mass was undertaken with an uncomplicated post-operative course. MRI on day three post-surgery, demonstrated interval debulking with residual enhancing mass. The neuropathology report identified a sphenoid sinus plasma cell tumour with kappa light chain expression, in keeping with a plasmacytoma. A haematology assessment confirmed that the plasma cell tumour had arisen in the context of multiple myeloma with a bone marrow biopsy revealing plasmacytosis of 51%. Treatment was commenced with lenalidomide and dexamethasone.

This case report describes a rare initial manifestation of multiple myeloma, in which a sphenoidal sellar mass mimicked an invasive non-functioning pituitary macroadenoma. Patients presenting with cranial nerve neuropathies and intact pituitary function should be considered for the possibility of this diagnosis, in particular in the presence of sellar destruction. This case underscores the significant role of histology in aggressively behaving sellar masses.

P19 Rhabdomyolysis complicating the Hyperosmolar Hyperglycaemic State (HHS)

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University Hospital Limerick, Limerick, Co. Limerick, Ireland

A 36 year old man attended the Emergency department with altered mental status, complicated by vomiting and reduced oral intake for one week. He had a history of monogenic diabetes (HNF4A), diabetic retinopathy, hypertension, ischemic heart disease, cardiomyopathy, and non-compliance with medications. At presentation the patient was in a hyperosmolar (serum osmolarity 337mOsm) hyperglycaemic (plasma glucose 59 mmol/L) state complicated by anuric renal failure with a lactic acidosis. Despite conventional therapy for HHS, he required intensive care unit admission to deliver inotropic support and dialysis. The patient responded to therapy, but reported new tenderness in both calves in the absence of trauma. The clinical picture concerning for myositis, a creatinine kinase (CK) level was measured approximately 6 hours post admission which was elevated at 5274 U/L (40-320 U/L). The CK levels peaked at 48 hours post admission, 27,238 U/L. A magnetic resonance image of the right foot provided radiological evidence of myositis in the medial and lateral gastrocnemius muscles. A diagnosis of Rhabdomyolysis secondary to HHS was made. This case highlights an underrecognized association between diabetic emergencies and non-traumatic rhabdomyolysis. Although the etiology is poorly understood, this condition is associated with higher serum osmolarity, lower serum potassium and increased frequency of renal failure mirroring this case. Furthermore, those with rhabdomyolysis complicating HHS have a higher mortality than those unaffected. Routine CK measurement should be considered in patients presenting with diabetic emergencies as this would allow for early identification, prognostication and management.

P20 ARMC5 mutation resulting in Cushing syndrome secondary to bilateral macronodular adrenal hyperplasia.

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A 56-year-old woman was incidentally found to have a lobulated solid mass superior to the kidney on an ultrasound of liver for haemochromatosis. Further review revealed a history of fatigue and weight gain whilst examination showed central adiposity, dermal atrophy with ecchymosis, hypertension, abdominal striae, and proximal myopathy. Initial biochemical evaluation indicated the presence of Cushing syndrome with a urinary free cortisol of 183 mcg/24h, serum cortisol of 591 nmol/L and adrenocorticotrophic hormone (ACTH) <0.7 pmol/L. Computed tomography (CT) showed large solid lobulated avascular heterogenous multicentric adrenal masses 50x40mm on the right, 90x60mm on the left. Positron emission tomography-computed tomography (PET CT) revealed bilateral F-fluorodeoxyglucose (FDG) avid, homogenous, and lobulated adrenal masses whilst a dedicated adrenal CT favoured the differential of macronodular adrenal hyperplasia. The patient was referred for bilateral adrenalectomy. Genomic DNA analysis identified the presence of a mutation of the Armadillo Repeat Containing 5 (ARMC5) gene as the responsible mutation for the development of bilateral macronodular adrenal hyperplasia (BMAD) in this patient. BMAD is a rare cause of Cushing syndrome and the nature of bilateral tumours in corticotropin-independent macronodular adrenal hyperplasia raises the suspicion of a genetic predisposition. The presence of germline mutations affecting the ARMC5 tumour suppressor gene have been often identified in such cases and results in the slow de-differentiation of adrenocortical cells leading to the slow growth of adrenal masses and the inappropriate production of cortisol in an ACTH independent manner as seen in this patient. Surgical resection is the preferred management of such cases.

P21 A case of maternally inherited diabetes and deafness (MIDD) presenting with subacute choreiform movements.

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Maternally inherited diabetes and deafness (MIDD) is one of the most common mitochondrial diabetes disorders caused by a mutation in m.3243A>G. It affects up to 1% of all diabetes, has multi-organ involvement and its presentation can vary. It can present itself as an unremarkable form of diabetes, with its associated complications – most commonly sensorineural deafness. Neurological involvement, such as with subacute generalised chorea in this case is extremely rare.

We report a 31 year old female who presented with choreiform movements for one week and was found to have a blood glucose level of 33mmol/L. She reported recent osmotic symptoms, long standing hearing loss and possible neuropathy. She did not have the typical phenotype of a patient with Type 2 Diabetes Mellitus. Islet autoantibodies were negative, lactate when

well was elevated at 2.5mmol/L and CT brain scan showed long-standing basal ganglia calcification. Her diabetes was well controlled and treated with basal bolus insulin. Neurology opinion felt her choreiform movements were secondary to hyperglycaemia and treated with tetrabenazine.

After extensive investigation including genetic analysis due to the constellation of symptoms mentioned previously, she was confirmed to have MIDD with the pathogenic mitochondrial DNA variant NC_012920.1:m.3243A>G in the MT-TL1 gene found at a low heteroplasmy level of 5%, consistent with this being the cause of her diabetes.

It is important to consider a diagnosis of MIDD in patients presenting with a constellation of symptoms including deafness, choreiform movements plus persistent lactaemia as management can change and requires monitoring for associated mitochondrial complications.

P22 Insulin prescribing, administration, and glucose monitoring trends in Galway University Hospitals

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Injectable insulins are high-alert critical medicines which have been identified as a significant medication safety issue both nationally and in Galway University Hospitals (GUH). The first GUH insulin audit was conducted in 2022 to evaluate use and identify/develop quality improvements which include the appointment of a diabetes pharmacist, an updated insulin chart, a bespoke eLearning module for the safe use of insulin, and continuous education on appropriate use for staff and patients/carers. The aim was to conduct a similar insulin audit in order to assess performance and develop further quality improvements as needed.

This audit was conducted over one day in June 2023. The audit protocol and tool were approved by the Clinical Audit Committee, piloted, and communicated to 26 interprofessional data collectors. Generated data were anonymous and securely stored. Independent analysis was conducted by three researchers to confirm reliability of results.

Prescribing errors comprised 63% of records, an improvement from 80% in 2022. Administration errors comprised 84% of records, similar to the 89% error rate observed in 2022. 20% of insulin orders were not signed by a prescriber, compared to 13% the previous year. More than 90% of prescribers clearly documented the correct insulin name, dose, and administration times, and 70% are now documenting a medical council registration number, bleep, or name for contact purposes compared to 58% the previous year. Insulin was not double checked in 20% of cases compared to 30% in 2022.

Results are transferable and will assist in developing quality improvements to optimise patient care.

P23 Audit Assessing whether Basal Long-term Insulin is Administered in a timely fashion in Patients Presenting in Diabetic Ketoacidosis(DKA) Tipperary University Hospital

Thuto Kalipa, Akansha Dahiya, Elgelani Bahaeldein

Tipperary University Hospital

DKA is a serious complication of diabetes with a significant morbidity and mortality despite the advances in treatment and well-setup protocols in all hospitals. There has been evidence that has shown that continuing basal long-acting basal insulin has improved outcomes and decreases the risk of recurrence and thus has now been added into the guidelines.

We sought to assess whether patients being admitted in DKA had been appropriately prescribed a long-acting basal insulin. The Audit Consisted of 2 arms. Group A being the Patients who had not self-administered Insulin on the day of presentation to the Emergency Department in which case according to the JBDS, were meant to receive the above within an hour of presentation. Group B focused on those who had administered their own insulin the day of admission. In the above, we assessed whether it had been prescribed and given within 24 hours of the last dose. During the months of July 2022 to June 2023, 1 of 6 patients in Group A received their Basal Insulin in a timely fashion The remaining 9 patients had self-administered their basal insulin on the day of presentation. Only 6 of the 10 in Group B received had it prescribed and administered appropriately

There is already Protocols in place however further teaching sessions with Medical and Emergency Department team would be arranged.

P24 A decade of Diabetic Ketoacidosis at type 1 diabetes diagnosis in children and young people nationally by Slaintecare region.

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Diabetic Ketoacidosis (DKA) is a life-threatening complication of type 1 diabetes (T1D). Increasingly DKA at diabetes onset is associated with adverse long-term metabolic outcomes. The objective of this study is to report the proportion, age and severity of DKA at diabetes onset in children aged under 15 years of age (2011-2021) nationally by healthcare region.

The Irish Childhood Diabetes National Register (ICDNR), is a prospective incidence register which monitors the frequency, clinical, laboratory and demographic characteristics of T1D in those under 15 years at diagnosis. Incident cases were categorised by year, age and severity using the ISPAD definition of DKA. Participating centres were grouped into Slaintecare regions.

Nationally in the period (2011-2021) there were 3,186 (1,683 male, 52.8%) ICDNR registered incident cases of T1D. Biochemical data were available to define DKA status for 2,888 (90.6%) of the cohort. Overall, 37.3% of children presented in DKA of whom 16 to 27% had moderate or severe DKA. The proportion presenting in DKA varied over time and by region, and were: 43.4%; 37.2%; 34.5%; 39%; 30.4%; and 33.4% in Slaintecare regions A to F respectively. The proportion of children presenting in DKA within age groups was highest in the (10-14.99 years (41.2%)), and (0-4.99 years (39.3%)) and lowest in 5-9.99 (31.6%) years.

Ireland has a high incidence of type 1 diabetes and unacceptably high rates of DKA at presentation in those under 15-years. These national register data provide important information to guide interventions to reduce the frequency of life-threatening DKA in our population.

Acknowledgment: The ICDNR is supported equally by an unrestricted grant from Novo Nordisk Ltd and an unrestricted grant from Abbott Laboratories Ireland Ltd.

Ethical approval for this study was granted by the SJH/ AMNCH Joint Research Ethics Committee.

P25 Self-Injection Education Using Automated Digital Doctors

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Artificial Intelligence (AI) chatbots have shown competency in a range of areas including clinical note taking, diagnosis and research. An obesity epidemic, exacerbated by a growth in novel pharmacological solutions has led to a strain on limited weight management resources. This study investigates the use of an AI chatbot integrated with a virtual avatar to educate patients beginning semaglutide injections. A "Digital Nurse" with facial and vocal recognition technology was generated to give a bespoke clinician validated tutorial. Our study compared knowledge attainment, self-efficacy, consultation satisfaction, attitudes, and trust-levels between those using AI and those receiving conventional education. 43 participants were recruited. 27 to an intervention group and 16 to a control group. After education, patients in the intervention group were significantly more knowledgeable ($p < 0.01$) and had better feelings about their injections ($p < 0.01$). Patients in the control group were more satisfied with their consultation ($p < 0.01$) and had more trust in their education provider ($p < 0.01$). There was no significant difference in overall self-efficacy levels. Patients were largely satisfied with the avatar (85%), and 81% of participants said they would use the resource in their own time. Bespoke AI chatbots integrated with digital avatars were capable of performing patient education. They can ensure higher levels of knowledge transfer yet are not as trusted as their human counterparts. AI

chatbots may have potential to aid the redistribution of resources, alleviating pressure on bariatric services and healthcare systems.

P26 Thinking too much about glucose?

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“Think Glucose” is a UK initiative aimed at improving inpatient diabetes care. A traffic light system was developed to guide medical professionals as to which patients should be referred to Inpatient Diabetes Specialist Team (IPDST). University Hospital Limerick is a 533 bed hospital and delivers over 1,150 inpatient diabetes consultations per year. An audit was conducted to determine how inpatient diabetes consultations in UHL aligned with the “Think Glucose” recommendations. Data was collected on the previous 500 inpatient consultations to the endocrinology service using the electronic referral system. Of the 500 consultations reviewed 69.6% were Diabetes, 25.2% were Endocrinology and 5.2% were excluded as duplicate referrals. The diabetes consultations were further classified according to the ‘Think Glucose Traffic Light System’ as Red (always-refer), Amber (sometimes-refer) or Green (rarely-refer). Of the 348 referrals classified as diabetes; Red n=173 (49%), Amber n=114 (33%) and Green n=62 (18%). Almost one fifth of diabetes consultations were classified as Green (rarely-refer), of these 60% were routine diabetes care and 23% were for mild, self-treating hypoglycemia. Among the consultations classified as Amber (sometimes-refer), 52% were for persistent hyperglycemia, 33% for significant educational need (usually change in therapy) and 12% were for steroid induced hyperglycemia. Efforts are required to reduce the frequency of consultations classified as Green to enable redirection of limited resources to consultations classified as Red or Amber. Approaches will include traffic light prompts on the electronic referral system and alternate outpatient referral pathways.

P27 Insights from Early Patient Experiences of using Smart Insulin Pens

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Smart insulin pens display and record the timing and doses of insulin injections, and may help to improve glycaemic control. The NovoPen® 6 and NovoPen Echo® Plus (Novo Nordisk, Bagsværd, Denmark) were recently launched in Ireland. The aim of this study was to gain insight into the support needs of users of these smart pens in our diabetes service. From September 2022, smart insulin pens were distributed to patients whom it was believed may benefit. A postal survey was subsequently circulated to these patients. The survey comprised 10 questions regarding users’ experiences with the smart pens, graded on a Likert scale. A free-text field allowed users to record additional feedback. Thematic analysis was performed on the qualitative data. Approval to carry out the study was granted by the local research ethics committee. Responses were received from 9/29 (31%) patients. All participants agreed that the smart pens helped them to remember whether they had taken their insulin, were easy to use, and had been beneficial for helping to manage blood sugars. The main themes identified from the qualitative feedback were: (1) Reassurance – peace of mind from preventing a “double injection”; (2) Fear – of losing the smart pen and not having a back-up; and (3) Frustration – difficulties connecting to software where insulin data could be analysed. The early experiences of this small sample of our service users suggest good engagement with smart pen technology. Diabetes care teams should develop expertise to support such patients and be capable of managing their technical concerns.

P28 Audit of Patient Awareness of Sick Day Rules whilst on a sodium-glucose co-transporter-2 inhibitor.

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Sodium-glucose co-transporter-2 (SGLT-2) inhibitors are a novel class of anti-diabetic medications that has led to the improvement of glycaemic control in type 2 diabetics. Its usage has recently expanded to the treatment of patients with heart failure and chronic kidney disease irrespective of diabetic status. Albeit an excellent drug, one side effect is dehydration resulting in the development of euglycemic ketoacidosis. As per the NHS guidelines, SGLT-2 inhibitors should be stopped

when ill; better known as the sick day rules. Patient awareness of sick day rules when taking an SGLT-2 inhibitor in Sligo University Hospital was assessed. Sick day rules were defined as withholding a SGLT-2 inhibitor when the following criteria were met: dehydration, vomiting, diarrhoea and fever. Drug medication kardexes and hospital charts were screened on all medical wards from March 6th 2023 to September 1st 2023. Inclusion criteria included patients on SGLT-2 inhibitors. Patient demographics and reason for SGLT-2 inhibitor usage were also noted. Patients or their careers were asked about sick day rules. Fifty patients were identified with an average age of 73 years (range 47-90 years). 88% had a diagnosis of heart failure, 76% Type 2 diabetes and 64% chronic kidney disease. Results showed majority (60%) were prescribed dapagliflozin and 40% empagliflozin. Only 26% of patients were aware of sick day rules. This audit highlights sick day rules unawareness in SGLT-2 inhibitors users and the need for further patient and carer education to avoid life-threatening dilemmas.

P29 Quality measures in the Diabetes Clinic.

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The United States National Committee for Quality Assurance (NCQA) describes specific clinical process and outcome measures to promote the use of a performance measurement set for diabetes services.

An audit of 106 consecutive adult attendances was conducted at University Hospital Limerick's diabetes clinic using these measures against specified NCQA targets and a total weighted score.

Table 1 shows the breakdown of individual quality measures. Blood pressure control met the standard, while HbA1c control and lipid control did not. Neither nephropathy nor retinal assessment met targets, while foot assessment did.

As measured against NCQA standards, our clinic did not reach desired targets. Focused practical or educational solutions may improve measures on reaudit. Further evaluation is needed to determine if US-NCQA standards are applicable to an Irish tertiary care setting, particularly with most recent guidelines.

Clinical domain	Glycaemic control	Cardiovascular assessment	Microvascular assessment
Prevalence (%) (Target) NCQA weight	HbA1c <53 mmol/mol 14% (≥40%) 0/5 points	LDL-C <2.6 mmol/L 32% (≥36%) 0/10 points	ACR done 67% (≥80%) 0/5 points
Prevalence (%) (Target) NCQA weight	HbA1c <64mmol/mol 46% (≥60%) 0/8 points	LDL-C >3.4 mmol/L * 4% (≤37%) 10/10 points	Foot exam (in last year) * 87% (≥80%) 5/5 points
Prevalence (%) (Target)	HbA1C >75 mmol/mol 31% (≤15%)	Blood Pressure <130/80mmHg* 41% (≥25%)	Retinal screen (in last year) 50% (≥60%)

NCQA weight	0/12 points	10/10 points	0/10 points
Prevalence (%) (Target) NCQA weight	N/A	Blood pressure >140/90mmHg 51% (≤15%) (0/15 points)	N/A

Table 1. Quality measures with NCQA targets and scores achieved (maximum total 100 points). *Desired score achieved.

P30 Assessment and management of blood glucose in acute stroke patients

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There is association between high glucose levels and poor clinical outcomes in acute stroke with or without known diabetes which can counterbalance benefits of recent advances in treatment. The aim was to review detection/management of hyperglycaemia in acute stroke.

We took a snap-shot by reviewing paper/electronic records. Hyperglycaemia in stroke was defined as blood glucose (BG)>6.7mmol/L. Patients receiving palliation were excluded.

Twelve patients were reviewed (Age 80 (51-89) years; M:F,7:5; 75% ischaemic stroke; NIHSS 7.5(1-28); 42% known diabetes). 75% had BG checked on admission and, of these, 55% were suboptimal. Of those, 17% did not have pre-existing DM nor further BG/HbA1c. NIHSS was 12.2 in hyperglycaemic group (normoglycaemic group:7). 75% had HbA1c checked with one new diagnosis (admission BG unknown) in the four checked of seven without known diabetes. All patients with pre-existing diabetes had BG checks as per protocol. 4/5 with known diabetes had HbA1c checked with one over target. BG remained high but referral was not made to Diabetes Team. Of five with known diabetes, one was referred (hypoglycaemia) to Diabetes Team but no others despite sub-optimal management.

This small review suggests correlation between higher BG and stroke severity. BG monitoring was good in known diabetes, however, opportunity to optimise control and refer for specialist care was often lost. Suboptimal BG in those without previously known diabetes was not carefully followed with potential new diagnoses missed. Considering elevation in BG leads to poor outcomes in stroke, further work with both stroke and Diabetes Team is required.

P31 An audit of a quality improvement tool to improve statin prescription in patients with T1DM.

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Type 1 diabetes mellitus (T1DM) is associated with high cardiovascular risk. Statins reduce the risk of non-fatal myocardial infarction when used as a primary prevention in selected patients with T1DM. A 2020 audit of statin prescription in our department showed 28.3% of patients who met criteria were on statin therapy. The aim of this audit was to assess the effectiveness of introducing a standardised proforma in increasing statin prescription when indicated. A printed proforma based on NICE guidelines was introduced to accompany the TYMAX in patient charts with T1DM. Clinical staff were educated on how to use the proforma and there was an accompanying supplementary tool with further instructions if required. We then prospectively collected data from July to August 2023 to establish whether it improved statin prescription in patients meeting criteria at St Vincent's University Hospital. 103 patients with T1DM attended over the study period. 50/103 (49%) of this cohort were already on statin therapy. 14/53 (26%) patients were commenced on statin therapy. 39/53 (74%) were not started

on a statin, this was appropriate in 33/39 (82%) patients. Therefore, 15/21 (71%) patients meeting criteria were started on cholesterol lowering therapy. The most common reasons for not starting statin therapy were not meeting clinical criteria 19/53 (36%), patient declined 8/53 (15%) and childbearing age 3/53 (6%). Statin prescription has increased in patients with T1DM attending our clinics since the previous audit in 2020. This is an effective tool to increase statin prescription for primary prevention in eligible patients with T1DM.

P32 Type 1 Diabetes Structured Education in Ireland in 2023: the DAFNE expansion

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DAFNE (Dose Adjusted for Normal Eating) is the training programme for Type 1 diabetes (T1DM) recommended by the Health Service Executive / National Clinical Effectiveness Committee in Ireland. It can improve glycaemia, quality of life, and reduce hospital admissions for diabetic ketoacidosis and hypoglycaemia. Established since 2004 in Ireland, its initial roll out to 6 sites was supported by the Irish DAFNE Study. Recently, its expansion has been supported by dietetic posts from the Integrated Care Programme for the Prevention and Management of Chronic Disease (ICPCD).

The Diabetes National Clinical Programme aimed to establish a national picture of DAFNE delivery in Ireland. We engaged with DAFNE Central and met with hospital-based diabetes services across all six health regions, including 21 services who were allocated ICPCD posts to support DAFNE.

We found there has been a 230% increase in DAFNE availability since 2016. Eighteen public and 2 private DAFNE centres are now spread across 6 health regions, supported by 71 educators and 27 doctors. ICPCD funding was allocated for 19.5 posts, of which 12.5 (64.1%) have been filled. Of the 12 newer sites, 9 (75%) have used the funding to commence DAFNE, 2 used existing resourcing, and 1 remains registered but the ICPCD posts are vacant. Course data were available between 2016-2022 showing 191 courses with 1118 graduates. Centres deliver between 2 and 10 courses per year, currently mainly via telehealth. Opportunities and challenges include integration of DAFNE and technology, recruitment, waiting list management and flexible delivery models across health regions.

P33 DAFNE delivery in the UK and Ireland 2019-2022

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DAFNE (Dose Adjusted for Normal Eating), the education programme for Type 1 diabetes, has been prioritised for roll-out by the Health Service Executive. However, little is known about programme implementation across sites. We analysed baseline and 12 months post course data submitted to DAFNE Central for courses between 01.01.2019 and 01.01.2022 in the UK and Ireland. Descriptive statistics were generated to examine the demographic and clinical profile of graduates pre and post course, and to examine courses delivered, formats and attendance. Multivariable logistic regression was used to examine demographic (age, gender) and clinical variables (years since diagnosis, DKA requiring admission in past 12 months (DKA), hypoglycaemic episode in the last year unable to treat themselves (hypo)), course format and country, as predictors of dropout (attending ≤ 5 days of a course). Overall, 6749 people attended courses across 91 centres. In 2019 (representing pre-pandemic delivery) most centres delivered 2-10 courses per year (n=72, 84%). UK graduates were slightly older on average and had diabetes for longer than Irish graduates. Of 297 experiencing a DKA pre-DAFNE (n=297), 4% (n=12) experienced a DKA post course. A higher proportion of graduates reported having a hypo before DAFNE compared to in the 12 months post DAFNE (12% vs. 4%). Overall, 10% of attendees dropped out. Younger age, hypo in the past 12 months, and course format (blended, remote pump)

were independently associated with dropping out. Key findings will be explored further through ongoing qualitative research focused on understanding challenges to delivering DAFNE in Ireland.

P34 An Audit of Technology Use and Data Entry in Patients Living with Type 1 Diabetes at a Primary University Hospital

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The prevalence of diabetes technology use in clinic patients living with type 1 diabetes was measured at University Hospital Galway in May 2023. Diabetes technology includes Continuous Glucose Monitoring (CGM) and Continuous Subcutaneous Insulin Infusion (CSII). Real-time data extraction functions on the Diamond Diabetes Management System (DDMS) healthcare database were used. This process uncovered discrepancies between health records such as clinical notes, the DDMS and device order lists. Only 21.2% of devices were recorded correctly to a standard enabling live monitoring. 19.9% of patient’s using devices in the clinical notes, were not recorded as such on Diamond. Once collated, data showed 19.4% of patients were using CSII, 51% of those were using the Medtronic 780G. 8 different models of CSII were in use. While 31.6% of users were using CGM only, up to 52% of patients were using a CGM alone or in combination with CSII. 77.5% of recorded CGM users were using the Dexcom G6. 8 different CGM models were in use. Technology users had significantly lower mean HbA1c(62.3mmol/mol vs 70.5mmol/mol), higher BMI (27.4kg/m² vs 26.6kg/m²) and lower Triglycerides (1.2mmol/Lvs 1.38mmol/L) than non-users. While improvements in technology uptake are encouraging, further increases are needed to match European standards and ensure equity in patients living with type 1 diabetes in Ireland. Recognised data entry protocols may help ensure accuracy, promoting surveillance and technology distribution.

P35 Early impact of hybrid closed-loop insulin pump systems in a regional paediatric diabetes population.

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Background

Hybrid closed-loop insulin pump systems recently became available within the Irish healthcare system, with potential to improve glycaemic control using algorithmic partially-automated insulin delivery.

Methods

We conducted a retrospective review of all patients who commenced hybrid closed-loop insulin pump systems between Jan 2022 and May 2023. Data were averaged across 3-monthly blocks (HbA1c, GMI, TIR, Hypos, CoV, %basal) at baseline and at 3 and 6 months after system commencement. Primary outcomes were difference in HbA1c and Time-in-range (TIR).

Results

Forty patients (M=50%) commenced hybrid systems, with a mean age of 12.4 ± 3.5 years and duration of diabetes of 7.7 ± 3.8 years. Mean HbA1c at baseline was 64 mmol/l (8.0%) which improved to 58.2 mmol/l (7.48%) at 3-months and 59.6% (7.56%) at 6-months post-commencement (p<0.001). Mean TIR at baseline was 47%, improving to 65% at 3 months and 62.4% at 6 months post-system start (p<0.001). Non-significant trend to reduction in hypoglycaemia was demonstrated with mean at baseline 1.85% and 1.55% at 6 months (p=0.81).

Conclusion:

This early study suggests use of such insulin pump systems can result in improved glycaemic control in a paediatric population and these improvements in control are sustained at six months. Mean reduction in HbA1c of 0.5% was seen, with mean increase in TIR of 14.6%, showing promise for reduction in diabetes-related complications.

P36 Glucometric utilisation in an urban teaching hospital in Ireland : Current practice and future aims.

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Dysglycaemia in hospitalised patients is associated with poorer clinical outcomes, including cardiovascular events, longer hospital stays, and increased risk of mortality. Therefore, glucose monitoring is necessary to achieve best outcomes. This audit assesses use of point-of-care (POC) blood glucose (BG) testing in Tallaght University Hospital (TUH) over an 8-day period. It evaluates compliance with international and TUH glucose monitoring protocols and determines frequency of diabetes team consultations for inpatient adults. Data from an 8-day period (12/03/2023-19/03/2023) were extracted from the TUH COBAS-IT system and analysed. Invalid tests were excluded. Hyperglycaemia was defined as ≥ 10 mmol/L and hypoglycaemia as ≤ 3.9 mmol/L. Persistent hyperglycaemia was defined as two BG results of ≥ 10 mmol/L. A chart review was conducted on adult patients with persistent hyperglycaemia to assess for HbA1C results, diabetes diagnosis, and diabetes consult. 3,530 valid tests were included and analysed. 674 individual patients had tests done. 1,165 tests (33.00%) were hyperglycaemic and 75 (2.12%) were hypoglycaemic. 68.25% of adults with persistent hyperglycaemia had an HbA1C test performed or documented within three months. 42.71% of inpatient adults with persistent hyperglycaemia and a known diabetes diagnosis received a consult from the diabetes team. Increased adherence to hospital protocols for testing HbA1C in adults with persistent hyperglycaemia could improve treatment decisions and clinical outcomes. The diabetes inpatient consult team saw fewer than 50% of adult inpatients with persistent hyperglycaemia. Increasing utilisation of the diabetes consult team could facilitate appropriate treatment and improve patient outcomes in persistently hyperglycaemic adult patient populations.

P37 Glycaemic control in people with Type 1 diabetes mellitus (T1DM) using real-time continuous glucose monitoring (rtCGM) is influenced by competency in diabetes management

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Real-time Continuous Glucose Monitoring (rtCGM) has provided an alternative to regular finger pricks for glucose monitoring. Switching from finger-pricking to rtCGM may help improve glycaemic control; however, it is unclear if this improvement is influenced by an individual's pre-existing competency in diabetes management. This study aimed to investigate the impact of competency in insulin dose adjustment on the effectiveness of rtCGM in people with T1DM, measured using HbA1c and Time in Range (TIR). People with T1DM attending our clinic using Dexcom rtCGM (Dexcom, San Diego, USA) were invited to take part in the study. Patients with hypoglycemia unawareness were excluded. Diabetes management competency was assessed using a questionnaire based on the Kaufman Competency Scale, with "competency" defined as a score ≥ 5 . Ethical approval to conduct the study was granted by the local research ethics committee. 376 patients were screened for eligibility; 94 were selected to take part. Responses were received from 25/94 (27%); 18/25 (72%) were deemed to be competent in insulin dose adjustment. 13/18 (72%) of "competent" patients had HbA1c ≤ 53 mmol/mol, of whom 7 also had TIR $\geq 70\%$. 3/7 (42%) of "less competent" patients had HbA1c ≤ 53 mmol/mol, with only 2 having a TIR $\geq 70\%$ indicating correlation between the Kaufman Competency Scale scores, HbA1c levels and TIR. These findings suggest that while rtCGM has the potential to improve glycaemic control, competency in diabetes management may be an important factor. The results support adopting personalised care strategies for people with T1DM using rtCGM.

P38 The association of HbA1c with person-reported hypoglycaemia occurring above hypoglycaemic glucose range: the Hypo-METRICS study.

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Introduction

People living with type 1 (T1D) and type 2 (T2D) diabetes often report hypoglycaemia at glucose concentrations > 3.9 mmol/l. We investigated the relationship between HbA1c and these episodes.

Methods

This analysis included 564 people living with insulin-treated diabetes (270 T1D, 294 T2D) who wore blinded continuous glucose monitor (CGM) and recorded person-reported hypoglycaemia (PRH) on the Hypo-METRICS app for 10-weeks. PRH episodes without recorded sensor glucose <3.9 mmol/l within an hour were considered “unmatched”. Generalised linear regression (adjusted for age, gender, CGM use, hypoglycaemic awareness and time-below range) was used to explore the relationship between unmatched PRH and HbA1c.

Results

Participants with T1D and T2D had a median (IQR) age 47 (30-57) and 63 (55-70) years, 54% and 38% were women, HbA1c of 7.3% (6.7-7.8) and 7.4% (6.8-8.2), 20% and 26% had impaired awareness of hypoglycaemia, with 76% and 43% using CGM, respectively. HbA1c had an inverse association with unmatched PRH in T1D in the unadjusted (incidence rate ratio [IRR] 0.81; 95% CI [0.71-0.92]; p-value=0.0012) and adjusted model (IRR 0.78; 95% CI [0.69-0.89]; p-value=0.0001). HbA1c had no significant association with unmatched PRH in T2D in the unadjusted (IRR 0.92; 95% CI [0.83-1.01]; p-value=0.06) and adjusted model (IRR 0.95; 95% CI [0.87-1.05]; p-value= 0.3).

Conclusion

In T1D lower HbA1c was associated with a higher rate of PRH without a matched sensor glucose <3.9, but no association in T2D. The perception of hypoglycaemia is likely multifactorial and further work is needed to explore the relationship of measured and perceived hypoglycaemia.

P39 The use of continuous glucose monitoring in inherited metabolic diseases with hypoglycaemia – a real world review

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Many inherited metabolic diseases can cause hypoglycaemia. Management prioritises avoidance of fasting, overnight continuous pump feeding, regular slow-release carbohydrate and self-monitoring of blood glucose. The use of continuous glucose monitoring (CGM) has been investigated in research studies to detect asymptomatic hypoglycaemia and optimise treatment.

Thirty patients (18 female/12 male) with metabolic disease (with potential to cause hypoglycaemia) used CGM for 6 days, including one woman throughout 2 successful pregnancies. Nine patients had Glycogen Storage Disease (GSD) Ia, five had GSDIb, seven had GSDIIIa, four had GSDIIIb, three had GSDIX and one each had GCK deficiency and hyperinsulinism-hyperammonaemia. Mean age was 34.2 years and mean BMI was 28.0 kg/m². Mean time below range (glucose <3.9 mmol/L) was 7.3%, time in range (3.9-7.8 mmol/L) was 83.4% and time above range (>10 mmol/L) was 4.3%. 17% experienced asymptomatic hypoglycaemia. Based on CGM readings, 50-80% of patients were recommended a change to dietary treatments (either a change in UCCS intake or meal timing/content). No significant changes in biochemical parameters (urate, lactate, creatinine kinase, alanine transferase) were detected, however average weight loss was 0.88 kg.

CGM results in meaningful improvements in care and consideration should be given to their use in evaluating patient progress.

P40 DEXCOM® continuous glucose monitoring device improves hypoglycaemic awareness and quality of life in people with Type 1 diabetes – a qualitative cross-sectional analysis.

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DEXCOM® continuous glucose monitoring devices (DCGM) have been shown to greatly improve glycemic control in people with Type 1 diabetes, lowering glycosylated haemoglobin, and the incidence of hypoglycaemic and hyperglycaemic events. However little qualitative research exists exploring the impact of DCGM technology usage on quality of life (QOL). This

single centre cross-sectional study occurred between September 2022 and September 2023. A quality of life questionnaire was offered to all patients attending Sligo University Hospital (SUH) diabetes clinics who used a DCGM device for at least six months. Ethical approval was obtained from the SUH Ethics Committee. Forty questionnaires were completed with an average user age of 47 years (range 18-73). 62.5% reported satisfaction with the DCGM compared to prior to usage. 55% felt less restricted by their diabetes, 76% felt more spontaneity in making day-to-day decisions in their life and 57% felt more open to new experiences. 70% found DCGM user friendly and 50% of participants did not feel depressed when using the device. Participants also reported that DCGM is trustworthy and made them worry less about their diabetes. Open-ended questions reported participants liked the alerts given when glycaemic target was not in range however, they also expressed concerns about lack of ketone monitoring and poor signal issues. The findings of this study demonstrates that DCGM usage greatly improves QOL along with proven HbA1c benefits. Further improvement of services and features could increase user satisfaction and greater improve QOL.

P41 An audit of glycaemic outcomes in people with type 1 diabetes mellitus following initiation of advanced hybrid closed-loop therapy in a tertiary referral centre.

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Recent observational data from the UK Hybrid closed-loop pilot demonstrated a HbA1c reduction of 1.7% with closed-loop therapy 1.

The Medtronic-780G with SmartGuard was the first HCL system available in Ireland. This audit aimed to assess the impact of initiation of HCL-therapy on glycaemic metrics and determine the proportion of individuals meeting glycaemic targets as per Advanced Technologies & Treatments for Diabetes consensus guidelines.

At time of data collection, one-hundred and fifty-seven people with T1D were using the Medtronic-780G in Beaumont Hospital. Of these, HbA1c measurements pre- and post- HCL initiation were available for 129 people.

The cohort median age was 41-years (IQR=19). Fifty-one percent of users were female (n=66), and forty-nine percent male (n=63). Median duration of advanced-HCL use was 11-months (IQR=12). HbA1c improved from 63.04 to 53.2 mmol/mol post initiation of HCL-therapy, a decrease of 9mmol/mol (p<0.001). Percentage of users with a HbA1c <53mmol/mol increased from 20.2% (n=26/129) to 57.4% (n=74/129).

Of those sharing data to the CareLink database (n=122), median time spent in SmartGuard mode was 97% (IQR=10%). The median time-in-range was 74% (IQR=13%), time-above-range was 25% (IQR=14%) and time-below-range was 1% (IQR=2%). Median glucose-median-indicator (GMI) was 52 mmol/mol (IQR=4.5). Sixty-eight percent of users achieved the recommended > 70% time-in-range.

Conclusion – HCL-therapy was associated with improved glycaemic control and a greater likelihood of achieving glycaemic targets in this cohort.

[1]Crabtree TSJ et Al. Hybrid Closed Loop Therapy in Adults With Type 1 Diabetes and Above-Target HbA1c: A Real-World Observational Study. Diabetes Care. 2023 Aug 11:dc230635. doi: 10.2337/dc23-0635.

P42 Temporal changes in endocrinology inpatient consult activity at University Hospital Limerick (UHL)

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University Hospital Limerick is a model 4 hospital with 533 beds. Temporal changes in activity of the endocrinology inpatient consult service between 2019 and 2022 were audited. Anonymised data was extracted from the electronic referral system for all consults generated along with adult admissions data provided by HIPE. A 42.6% increase in inpatient consultations was observed (n=1162 in 2019 to n=1657 in 2022). Interestingly, a 36.4% increase in the total number of adult admissions to UHL from 2019 to 2022 was observed and believed to account in part for increased inpatient consultation requests. Changes in the profile of consultations were examined and although diabetes was the dominant reason for consultation, non-diabetes consultations increased from 22.6% in 2019 to 28.5% in 2022. Further, the mean(SD) age of patients increased from 61.6(17.1) years in 2019 to 63.3(17.4) years in 2022. Growth in consult requests was greatest among those aged 70-79 years (26.1% in 2019 versus 28.3% in 2022) and 80-89 years (10.5% in 2019 versus 15.5% in 2022). The percentage of hospital admissions in 2022 for those aged 70-79 was -0.6% and 80-89 years 0.1% when compared to 2019. Growth in inpatient consultation exceeds growth in hospital admissions, with activity disproportionately increased among patients in the 8th and 9th decade of life. Further work is needed to understand the increased demand in this cohort and how it may be appropriately resourced.

P43 Inclusive Voices in Diabetes Care: Patient and Stakeholder Priorities in Type 1 Diabetes Research

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The landscape of Type 1 Diabetes (T1D) research is rapidly evolving. Setting new research priorities to align with evolving patient needs and emerging research findings remains a formidable challenge. This study highlights the James Lind Alliance (JLA) approach for its patient-centricity in shaping research agendas. A steering group committee of stakeholders, including healthcare professionals and patients regularly reviewed survey questions for clarity and sensitivity. This group consisted of adults with T1D, healthcare professionals in T1D care and family/carers of people with T1D. The survey was distributed through various channels via email, online forums, social media, and posters. A keyword-based tagging system was employed to categorise questions into predefined themes. A total of 166 people completed the survey. 561 questions were gathered. The mean age of respondents was 45. The majority of respondents were people with T1D (54.89%), healthcare professionals (22.28%), or family members (8.15%). Common themes included technology (199), education access (53), psychology (48), cure (45), women's health (39), and audit (39). This study underscores the vital role of inclusive patient and stakeholder engagement in redefining research priorities for the ever-evolving T1D landscape. The initial data collection phase is ongoing, and it is anticipated that further insights will be available soon after the end of the three-month survey period. Future directions involve expanding our outreach to further diverse demographics and distilling a set of agile, patient-driven priority questions. This patient-centric approach promises to shape research agendas responsive to patient needs and emerging scientific discoveries.

P44 "Redirecting the flow" - early experience with a community diabetes service

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The HSE's Enhanced Community Care programme is designed to deliver specialist care of chronic diseases (including type 2 diabetes) in the community.

A waiting list initiative was undertaken whereby existing referrals to University Hospital Galway were reviewed by a doctor and diabetes nurse specialist. The aim was to identify and re-direct appropriate referrals to community diabetes clinics in the Galway City and Ballinasloe integrated care hubs.

A total of 68 referrals were reviewed. 33 were deemed appropriate to remain on the waiting list for review in secondary care and 35 were deemed appropriate for review in the community.

Of these 35 referrals, the median time already spent on the hospital waiting list was 13 months(min 3months, max 17months). Mean HbA_{1C} was 66mmol/mol. People living with diabetes were offered an appointment in the community within 6 weeks

and 62% attended (38% did not attend or cancelled their appointment). Of those who attended, 45% were discharged back to primary care following one appointment in the hub and the remainder were planned for further review in the community.

At least 50% of the referrals on our waiting list were suitable for review in the community. 25% were suitable for transition back to primary care after one review and 25% had further reviews planned in the community -some of whom will be transferred back to primary care and some will need follow up in secondary care. Further evaluation of community diabetes services will provide insights into the impact on other aspects of diabetes care.

P45 Pathway for Diagnosing Type 1 Diabetes in New Referrals to a Rapid Access Diabetes Service

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The South Eastern Trust (SET) has approximately 5176 people attending their Diabetes Services, of which 1767 have a diagnosis of type 1 diabetes or LADA. In 2019, a rapid access service (RAS) was established. In a 12 month period (January 2022- January 2023) there were 97 referrals with new acute symptomatic hyperglycaemia to the SET Diabetes service; 28% (n=27) patients who had clinical type 2 diabetes and the remaining 72% (n=70) required further investigation for classification. Referrals were from multiple sources; 30 from GP; 8 from A+E; 29 followed up from hospital admission and 3 from other services. Of those that required further investigation, 69% patients (n=48) were reviewed in RAS within 1 day (range 0 to 40) following their diagnosis.

The focus of initial review settling the acute hyperglycaemia and establishing type of diabetes. Of the 70 patients with possible type 1 diabetes; 50 had GAD; 11 had GAD/IA2/ZNT8; 1 had islet cell antibodies and 8 patients had no diabetes antibodies sent. Guidelines suggest that a diagnosis of type 1 diabetes requires one strongly positive antibody or 2 weakly positive antibodies. Using this criteria 31% (n=22) would have a confirmed diagnosis and yet 47% (n=33) have been classified as having type 1 diabetes and 8% (n=6) with LADA. This led to the development of a pathway for diagnosis of type 1 diabetes where all patients will get triple antibody testing at initial diagnosis.

P46 The utility of C-peptide measurement in people diagnosed with type 1 diabetes

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C-peptide is a surrogate marker for pancreatic beta cell function, with lower levels seen in type 1 diabetes mellitus (T1D) compared to other forms of diabetes. To determine whether C-peptide had been measured, and to document its utility in categorising diabetes, a retrospective review of C-peptide levels, measured at least 3 years after diagnosis was conducted on a database of people diagnosed with T1D. C-peptide levels, measured in conjunction with a plasma glucose >3.9 mmol/L, were obtained from the hospital lab system and demographic data were recorded from patient charts. Patients were categorised as having either low, (<0.6 ng/ml), intermediate (0.6-2.7 ng/ml) or high (>2.7ng/ml) C-peptide levels. Of 476 patients in the database, 58 (12%) had had C-peptide measured a mean of 5.9 years after diagnosis. Of these, 20 (34%) had low C-peptide (mean 0.26 ng/ml), 27 (47%) had an intermediate level (mean 1.46 ng/ml) and 11 (19%) had a high C-peptide (mean 5.06 ng/ml). Of those with an elevated C-peptide, 6 (54%) had positive auto antibodies, 7 (64%) had a family history of diabetes, one T1D and 6 type 2 diabetes. We believe that those in the group with elevated C-peptide have been misclassified and likely have type 2 diabetes. We conclude that C-peptide is not often checked three or more years after presentation to confirm a diagnosis of T1D and we propose that its measurement should be considered in patients with established type 1 diabetes, especially if there is diagnostic uncertainty, to help accurately categorise diabetes sub-type.

P47 Assessing Glycaemic Management: Insights from the Carbohydrate-Insulin Ratio Deviations

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Sensor-augmented pump therapy represents an advanced convergence of continuous glucose monitoring and insulin pump technologies to regulate blood glucose. This study utilised the OhioT1DM dataset, which includes sensor readings, insulin pump data, meal events, and other physiological data. The Carbohydrate-Insulin Ratio (CIR) defines the grams of carbohydrates needing one insulin unit to maintain target glucose levels. CIR deviation is the measure of difference between the prescribed CIR and the CIR used at a given mealtime. A zero CIR deviation means no correction was applied. The CIR deviation creates a new time-series for each meal, which serves as a powerful method in identifying daily and weekly patterns of meal corrections. In the comprehensive analysis of the OhioT1DM dataset, specific patterns emerged that warrant attention. Notably, CIR deviations during multiple breakfast events were not only distinct but also consistent. A high CIR deviation at breakfast was frequently observed, potentially indicating a reactive treatment approach to hyperglycaemia. This pattern could be attributed to evening meals or late-night snacks that did not receive an appropriate bolus insulin dose, leading to elevated blood sugar levels the following morning. Weekly trends showed large CIR deviations at the start, leading to lower deviations by the end of the 8-week period, hinting at white-coat adherence, with subjects altering their behaviour when concluding the OhioT1DM study. In conclusion, the CIR deviation analysis reveals self-management patterns in type 1 diabetes. These patterns offer potential for a detailed analysis, tracing causes and effects, which could enhance diabetes self-management.

P48 Retrospective analysis of glucagon-like-peptide-1 (GLP-1) receptor agonist use in patients with type 1 diabetes mellitus. Real world experience of an academic teaching hospital.

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The efficacy of GLP-1 receptor agonists in type 2 diabetes is well established, but their role in type 1 diabetes mellitus (T1DM) is less clear. Recent studies suggest they play a role as an adjunct therapy to aid weight loss and reduce total insulin dose. We sought to analyse real world experience of GLP-1 use in patients attending our diabetes clinic. We conducted a retrospective chart review of all T1DM patients attending over an 8 month period. We identified patients on GLP-1 agonist therapy and analysed glycosylated haemoglobin (HbA1C), weight (kg), body mass index (BMI), and total daily insulin dose pre and post GLP-1 use. We also recorded duration of diabetes, GLP-1 treatment length and any adverse effects. 85 patients attended the T1DM clinic over the study period. 7/85 (9%) patients were on GLP-1 therapy with an average diagnosis of T1DM for 23 years. Dulaglutide was the most common GLP-1 in use, followed by liraglutide. The mean duration of treatment was 1 year. There was a median reduction in HbA1C of 8.5 mmol/mol (range +5 to -23), weight loss of 3.3kg (range +1.6 to -7kg) and decrease in total daily insulin dose of 6 units (+23 to -96). Hypoglycaemia was the most common side effect (29%). A substantial cohort of patients with T1DM are on GLP-1 agonists. Its use is associated with improvement in HbA1C, weight loss and decreased total insulin dose. GLP-1 receptor agonist use is beneficial in certain patients with T1DM in a real world setting.

P49 Audit of the utility of glucagon like peptide 1 (GLP1) analogues in insulin treated type 2 diabetes

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GLP1 analogues are potent glucose lowering agents in the treatment of type 2 diabetes with the additional benefits of being cardio protective. Although randomised control trials supported the safety and efficacy of weekly GLP1 analogues as add on therapy to insulin, in the real world setting those with type 2 diabetes on insulin therapy are often more complex. The aim of this study was to evaluate the real world efficacy of weekly GLP1 analogues in insulin requiring type 2 diabetes patients. A retrospective analysis was conducted of patients with type 2 diabetes that commenced a weekly GLP1 analogue in a tertiary diabetes service. Over a six month period a weekly GLP1 analogue was commenced in 91 patients with type 2 diabetes. 31.8%

(n=29) of the cohort were established on insulin, only 5 patients were receiving insulin monotherapy at the time of GLP1 initiation. 12 of the insulin requiring patients commenced on a GLP1 analogue attended for follow-up. At a median follow up of 6 months, 75% of the patients remained on a GLP1 analogue. There was a reduction in average total daily insulin dose from 30.4 (SD±34.9) to 24.5 (SD±45.9) units as well as a reduction in median HbA1c of 14mmol/mol. A reduction of 6.5kg (SD±7.45) in mean weight was also observed at follow-up. Patients attending a tertiary diabetes service are often more complex than those recruited to clinical trials, despite that the efficacy of weekly GLP1 analogues in this heterogeneous real world cohort mirrored the randomised control trial findings.

P50 A re-audit of compliance with international consensus recommendations on clinical targets for continuous glucose monitoring in adults with diabetes mellitus attending an Irish tertiary hospital.

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The use of continuous glucose monitors (CGMs) has grown in recent years. This audit aimed to assess clinical characteristics of patients prescribed CGM in Beaumont Hospital, analyse the impact of initiation of CGM on HbA1c and CGM metrics, and to evaluate if our patients are meeting CGM targets set by the Advanced Technologies & Treatments for Diabetes (ATTD) Congress in February 2019. One hundred and thirty patients were included in this audit with a median age of 37 years (IQR=24). Fifty-one percent were male (n=67). The median duration of diabetes was 18 years (IQR=16) and that of CGM use was 24 months (IQR=19). 98.5% (n=128) had type 1 diabetes. Across the study population, mean HbA1c improved from 64.3 (SD=15.9) to 58.3 mmol/mol (SD=14.09), a decrease of 6 mmol/mol (p=0.002). The percentage of CGM users with HbA1c <53 mmol/mol increased from 17.2% (n=20/116) to 33.9% (n=40/118). When looking at the change in CGM metrics from CGM onset to follow up, we found no statistically significant change in average glucose (9.8±2.1mmol/L to 10.1±2.4mmol/L, p=0.22); time in range (56.06±19.8% to 53.72±21.6%, p=0.36); time above range (41.52±20.4% to 43.53±22.9%, p=0.17); time below range (2.4±2.9% to 3.1±3.1%, p=0.11) or glucose variability (3.3±0.9mmol/L to 3.5±0.9mmol/L, p=0.12). These results are comparable to the initial audit performed in 2021. Again, a statistically significant improvement in glycaemic control with CGM use was demonstrated. However, the majority of CGM users attending our services still have suboptimal time in range highlighting the challenges in optimising CGM use in people with diabetes.

P51 A novel unimolecular peptide targeting GLP-1 and APJ receptors exerts potent satiety inducing effects in mice

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Glucagon-like peptide 1 (GLP-1) and apelin receptor (APJ) agonists are known to improve metabolic control. To harness these beneficial effects, two novel dual-agonist unimolecular peptides were developed based on the amino acid sequence of GLP-1 and apelin and named apelin-linker-exendin (ALE) and Exendin-linker-apelin (ELA). Biological effects of these peptides were then investigated in BRIN BD11 beta-cells and in mice. ELA enhanced insulin release in dietary-induced obese (DIO) mice and was superior to ALE in this regard, with follow-up studies then focusing on ELA. Overnight incubation with 10⁻⁶ M ELA in BRIN BD11 beta-cells caused a 29.8% increase (p<0.001) in cellular proliferation rates. Additionally, 10⁻⁶ M ELA fully protected against cytokine-induced BRIN BD11 cell apoptosis. In 21h fasted lean mice, ELA evoked dose-dependent appetite inhibitory effects with food intake measured at 30 min intervals up to 180 mins. Specifically, while ELA was ineffective at a dose of 0.25 nmol/kg, a 1 or 2.5 nmol/kg dose elicited 19.5% and 44.7% reductions, respectively (p<0.05-0.001), in food intake when compared to saline treated controls. Further analysis revealed that ELA retained appetite reducing actions (p<0.05) for up to 42 h post-injection. When co-administered alongside the specific GLP-1 and APJ receptor antagonists, namely exendin-4 (9-39) and (Val13)apelin-13, food intake returned to levels similar to saline control treated mice, indicating receptor selectivity of ELA. In conclusion, ELA displays promising satiety inducing effects that may suggest application for the treatment of obesity, or obesity-driven forms of metabolic dysregulation such as type 2 diabetes.

P52 Mitochondrial heteroplasmy- phenotype correlation and response to appropriate glucose lowering therapy in subjects with Maternally inherited Diabetes and Deafness

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Maternally inherited diabetes and deafness (MIDD) is characterised by diabetes, sensorineural deafness and matrilineal inheritance and there is a paucity of published evidence to guide pharmacological therapy currently. The aim of this study is to examine the correlation between blood heteroplasmy levels and MIDD phenotype and to rationalise glucose lowering therapies in a MIDD cohort. 50 subjects from 28 families with a genetically confirmed MIDD diagnosis were phenotyped in detail. A 2-hour oral glucose tolerance test was performed to establish insulin secretory response. 34/50 MIDD subjects had diabetes with average age of onset was 36.0(30.25-44.0) years. Higher blood heteroplasmy levels showed increased diabetes risk (OR 1.206, 95% CI [1.019-1.418], p=0.03). Reduced insulin secretion (AUC C-peptide 2009.25(1710.44-3156.06)pmol/L/120min) and insulin resistance (OGIS 282.5[209-323.75]ml min⁻¹m⁻²) was seen in the MIDD cohort. 8/34 subjects were on metformin at initial review with only 1 remaining at last follow-up due to personal preference and 63% had raised lactate levels. 7 subjects were on sulphonylurea therapy and 3/7 subjects progressed to insulin therapy. 6 subjects on insulin trialled sulphonylurea therapy and only 1/6 managed to be weaned off insulin. In total, 23/34 MIDD subjects required insulin therapy. Both β -cell dysfunction and insulin resistance play a role in diabetes development in MIDD. 68% of subjects require insulin to improve glycaemic control. Early insulin therapy may be suitable to achieve good glycaemic control and avoid diabetes complications. This study highlights the importance of genetic testing in monogenic forms of diabetes to deliver tailored precision based medicine to individual subjects.

P53 No effect of semaglutide or tirzepatide on *in vitro* aggregation or activation of platelets from healthy subjects.

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Glucagon-Like Peptide 1 Receptor Agonists (GLP1RAs) including semaglutide, have been shown to lower the risk of cardiovascular events and death in people with type 2 diabetes or high cardiovascular risk. Tirzepatide, a dual glucose-dependent insulinotropic polypeptide and GLP1RA, has been shown to be superior to semaglutide in improving glycaemic control and weight loss for people with diabetes and/or obesity. Due to the early cardiovascular risk reduction observed in some GLP1RA cardiovascular outcomes trials, we hypothesise that this risk reduction may in part be attributed to an effect on platelet aggregation and/or activation. The objective of this study was to measure aggregation and markers of activation in platelets of healthy participants following *in vitro* exposure to semaglutide or tirzepatide. Platelet aggregation was measured by light transmission aggregometry using healthy donor platelet rich plasma (PRP), incubated with vehicle control or varying concentrations of semaglutide or tirzepatide. ADP, arachidonic acid (AA), epinephrine and collagen were used as agonists for aggregation. Resting and AA-activated platelet surface expression of the activation molecules CD62P and PAC-1 were measured by flow cytometry. One-way repeated measures ANOVA and mixed effects analysis were used to compare group means pre- and post-treatment. No significant difference in final aggregation (n=3-4, p>0.05), resting and AA-activated expression of CD62P or PAC-1 expression was identified (n=6, p>0.05) in response to incubation with semaglutide or tirzepatide. In this *in vitro* study of healthy donor platelets treatment with semaglutide or tirzepatide did not alter measures of platelet aggregation or activation.

P54 Intramuscular Glucagon prescribing in outpatients with Type 1 Diabetes Mellitus

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The national adult type 1 diabetes (T1D) guideline (NCEC National Clinical Guideline No. 17) recommends that adults with T1D experiencing a reduced level of consciousness due to hypoglycaemia should receive intramuscular glucagon administered by a trained family member or friend. We conducted a retrospective analysis of prescriptions and conducted phone interviews with all T1D patients who attended our outpatient clinic over the past three months to assess if prescribing and patient practice was adherent to this guideline. A total 69 patients (47.8% females), with a median age 55 years (IQR 41–63) and median duration of diabetes of 24 years (IQR 15–32) were included. Most patients were using multiple daily injections (76.8%), while the rest used insulin pumps (23.1%), with the majority using continuous glucose monitoring (CGM) (76.8%). Glucagon was prescribed on 52 of 67 prescriptions (77.6%). We achieved a high patient response rate, with 61 of 69 patients (88.4%) participating in phone interviews. Of these, 45 patients (75.8%) possessed a glucagon kit, 26 (42.6%) had a glucagon kit within its expiry date, and 51 (83.6%) had instructed a family member or friend on its usage. However, only 22 (36.1%) patients met all three criteria, despite 20 patients (32.8%) having a history of severe hypoglycaemia and 17 (27.9%) previously requiring glucagon administration. Prescribing and patient practice fell short of the national guidelines. Many patients cited a long duration since their last severe hypoglycaemic episode or the use of a real-time CGM with a hypoglycaemic alarm as reasons for non-adherence.

P55 Acute diabetes dietitians in Ireland: excellence, innovations and challenges

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A key task for the Dietetic Lead within the Health Service Executive Diabetes National Clinical Programme (NDP), is to engage with and support dietitians in adult diabetes services nationally to determine challenges and opportunities to improve access to and quality of diabetes care.

The NDP conducted a series of virtual and face-to-face engagements with 31 dietitians and 7 dietitian managers in 38 hospital-based diabetes services between January and July 2023. Our objectives were to explore service delivery, innovations, opportunities, and challenges in practice, and to establish support and training needs.

We found that most dietitians were delivering both dietetic-led, and multidisciplinary clinics with nursing and medical colleagues, focusing mainly on Type 1 (T1DM) and highly complex Type 2 diabetes. Sub-speciality clinics included young adult, pre-conception, and diabetes in pregnancy. In line with evolving T1DM care standards, dietitians were strong advocates for technology augmented care, promoting telehealth innovations in their practice including onboarding, integrating data interpretation in consultations, and use of remote care delivery. Challenges included integrating nutrition and diabetes self-management education with diabetes technology in rapidly evolving care pathways, staffing and resourcing to support equitable care, and, integration with enhanced community care.

Physical space, access to telehealth infrastructure, psychology resourcing, electronic health records and booking systems, updated clinical guidance, competency frameworks and continuous professional development (particularly in relation to in diabetes technology and insulin), centralised repositories of educational resources, dietetic support networks and opportunities for advance practice accreditation, were all identified as support or training needs by acute diabetes dietitians.

P56 Documentation of CGM data in University Hospital Limerick diabetes outpatient clinics

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HbA1c measures are a cornerstone of the diabetes clinic consultation, due to an undisputed association between HbA1c levels and risk of diabetes complications. Continuous glucose monitoring (CGM) has now become widely available, providing additional metrics, recommended by international consensus, and supported by initial data, to assess the degree of glycaemic control(1). The degree to which these metrics are currently documented in routine clinical practice, however, remains unclear. We extracted data from consecutive type 1 diabetes clinic consultations in University Hospital Limerick to examine documentation of adherence to international consensus recommendations in CGM reporting.

Of 28 patients with available data, all were using CGM (100% with Type 1 Diabetes). At least some CGM data was documented in all patients. Of these 28 patients, Time in Range (TIR, glucose 3.9-10 mmol/mol)(1) was documented in 93%, Time Above Range (TAR) in 82%, Time Below Range (TBR) in 68%, Glucose Management Indicator (GMI) in 21%, Coefficient of Variation in 11%, average glucose in 32% and sensor usage in 7%.

CGM data tends to be frequently, but incompletely documented in routine diabetes care. Dedicated training may help clinicians to use and document CGM data more effectively in patient consultations.

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P57 The Clinical Management of Hepatocyte Nuclear Factor 4-Alpha – Maturity Onset Diabetes of the Young (HNF4A-MODY) in a dedicated MODY clinic

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HNF4A-MODY is a very rare subtype of monogenic diabetes characterised by young onset diabetes, lean phenotype, autosomal dominant inheritance, neonatal hyperinsulinaemic hypoglycaemia and macrosomia. Early after diagnosis, first-line treatment includes sulphonylureas however long term efficacy is not established and insulin requirements vary over time. This study aims to phenotype subjects at diagnosis and establish the natural progression and clinical management following diagnosis. 39 subjects with HNF4A-MODY from 13 pedigrees (29 DM, 6 IGT, 4 NGT) were phenotyped in detail and followed up clinically in a dedicated MODY clinic. Diabetic subjects had a median age of 49 ± 27.5 years, BMI 25 ± 4.8 kg/m² and duration of diabetes 21 ± 19.5 years. 7/9 subjects on insulin at genetic diagnosis successfully transferred to SU therapy (TDD pre-diagnosis 0.2 ± 0.34 unit/kg/day). 4 subjects on sulphonylureas continued on therapy, and 7 were newly commenced. Optimal glycaemic control (HbA1c <53 mmol/mol) was achieved in 14 (48.3%) individuals with gliclazide monotherapy, median dose of 80 ± 80 mg/day and maintained over 6 ± 7.5 years follow up. 3 subjects remain diet controlled. GLP1 agonist therapy resulted in optimal glycaemic control in 2 patients when added to sulphonylurea with weight reduction of 13.6 kg. Addition of SGLT2 inhibitor treatment reduced HbA1c from 57 to 52 mmol/mol with weight loss of 4.2 kg in 1 subject. Diabetic retinopathy occurred in 13 subjects (44.8%); 10 background, 1 pre-proliferative, 2 proliferative. Nephropathy occurred in one subject. Genetic diagnosis facilitates switch from insulin to OHA therapy in many cases. 48 % maintained glycaemic targets on SU alone. 10 % currently require insulin.

P58 Adherence to post-natal follow up in Gestational Diabetes Mellitus (GDM)

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GDM rates in Northern Ireland have risen over 4 years by 30% now affecting around 17% of pregnancies. These women have 50% risk of GDM in any future pregnancy and 7-fold higher likelihood of type 2 diabetes (T2D). In pre-covid era, women had a post-partum oral glucose tolerance test; uptake was poor at 30%. This approach changed during the pandemic offering HbA1c in primary care 13 weeks post-partum, and then annually in line with NICE recommendations. The aim was to review compliance and speculate how treatment required may influence attendance for follow up.

Data was collected on all women with GDM attending Belfast Trust in 2021. Adherence to guidelines for follow up HbA1c was assessed.

592 women had GDM. 39.0% (n=231) had recommended follow up post-partum. Within the group treated with diet alone, 32.9% attended follow up (n=126); metformin 46.0% (n=23); insulin with or without metformin 51.6% (n=82). Post-partum HbA1c was elevated to pre-diabetic range (39-47 mmol/mol) in 24 women (10.4%) and diabetic range (≥ 48 mmol/mol) in 2 women (0.9%), with highest incidence in the insulin-treated group.

Uptake of post-partum follow up for GDM is low in our Trust and seems to vary between treatment groups with higher uptake of screening in those on a more intensive regimen. Post-partum follow up is an excellent opportunity to improve health status in these women. There is clear need to raise awareness of high risk of pre-diabetes/T2DM following GDM, increasing efforts particularly in those treated with diet alone.

P59 Exploring Women's Experiences, Perceptions, and Understanding of Gestational Diabetes Mellitus for Improved Patient Care

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This study aims to identify how a diagnosis of GDM is perceived and understood by patients. Primary goals of this research include assessing the impact of a GDM diagnosis and identifying potential barriers to care from the patient's perspective. Findings of this study will contribute valuable insights to develop tailored educational programs and enhance services provided to women with GDM. A structured questionnaire was administered to a cohort of 41 female participants attending the diabetic antenatal clinic at Mayo University Hospital during summer 2023. The questionnaire comprised queries about participants' perceptions of GDM as well as experiences of the healthcare services they received following diagnosis of GDM. The average age of participants was 36 years, and 23.1% had a previous pregnancy with a diagnosis of GDM. Approximately 70.0% of the women exhibited a BMI over 25.0kg/m² before this pregnancy, yet 32.5% did not attend a nutritional session with a registered dietician. Analysis of self-reported GDM knowledge demonstrated notable improvement, increasing from 34.2% pre-diagnosis to 95.0% post-diagnosis. Of note, 37.5% of participants were not asked about their mental health by hospital personnel, despite 25.6% self-reporting a diagnosis of depression and 10.3% experiencing depressive symptoms without a formal diagnosis. After GDM diagnosis, 87.8% of women conveyed feelings of disappointment, a sense of responsibility, and guilt for their condition. Mitigating distress and self-accountability arising from a GDM diagnosis stipulates provision of high-quality care, comprehensive educational interventions, effective treatment modalities, and the inclusion of broader considerations, such as mental health, in the care continuum.

P60 Overview of characteristics of patients attending for gestational diabetes screening in two large maternity hospitals.

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Gestational diabetes mellitus (GDM) is a commonly encountered problem in pregnancy, associated with increased maternal and fetal adverse outcomes. Risk factor-based screening for GDM is employed in our hospitals, in line with 2010 national guidelines. Screening practices for GDM differ among our maternity hospitals; namely the International Association of the Diabetes and Pregnancy Study Groups one-step approach (a fasting 75g 2-hour glucose tolerance test) and the Carpenter-Coustan two-step approach (an initial non-fasting 50g 1-hour glucose challenge test followed by, if positive, a fasting 100g 3-hour glucose tolerance test). A prospective study of maternity outcomes in patients attending for GDM screening is in progress. We have analysed baseline characteristics of an initial cohort of patients who attended for GDM screening in two hospitals with differing screening methods, using the one-step (n=98) and two-step (n=99) approaches. Mean age (\pm SD) was slightly lower in the one-step group: 34 (5) years versus 35.8 (5.1), p0.02. Mean body mass index (\pm SD) was similar between groups: 29 (6.1) kg/m² versus 28.2 (5.8), p0.364. In both groups, most patients were Caucasian (80%). GDM was diagnosed in 11/98 (11%) of the one-step group and 13/99 (13%) of the two-step group. Preliminary results from this study indicate a similar cohort of patients attending for GDM screening across the two sites, with a similar incidence of GDM among the two groups.

Further study with a larger cohort, which will include treatment practices for those with GDM and maternity outcomes for those with and without GDM, is ongoing.

P61 Impact of changes in Gestational Diabetes Mellitus diagnostic criteria during the COVID-19 pandemic

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During the COVID-19 pandemic, the Health Service Executive and Royal College of Obstetricians and Gynaecologists recommended fasting and random plasma glucose (FPG/RPG) alongside glycated haemoglobin (HbA_{1c}) to replace the oral glucose tolerance test (OGTT) for diagnosing Gestational Diabetes Mellitus (GDM). Pregnancies beginning in time periods 11 months prior (n=6262) and 11 months after (n=6153) guideline introduction on 01/05/2020 were analysed and compared for GDM test requesting patterns and rates of diagnosis (RStudio). Data indicated a decrease from 2001 to 1240 (38.0%, $P<0.05$) in the number of pregnancies where OGTTs were performed. Pregnancies with consultant-requested OGTTs fell from 664 to 257 (60.1%, $P<0.05$), and from 1370 to 990 (27.7%, $P<0.05$) in primary care. Pregnancies with consultant-requested HbA_{1c} increased from 1418 to 1943 (37.0%, $P<0.05$), and from 1691 to 2258 (33.5%, $P<0.05$) in primary care. The positivity rate for GDM testing increased from 20.1% to 22.4% after guideline adoption. The use of GDM biomarkers (FPG, RPG and HbA_{1c}) over the OGTT corresponded with a small increase in diagnostic rate. The GDM diagnostic guidelines during COVID-19 appear to have been well adopted by clinicians in inpatient and outpatient settings. In primary care, it appears there was less adherence to the new guideline. This potentially led to women attending GP surgeries for prolonged periods during strict social distancing. Given the limitation of HbA_{1c} in pregnancy, its routine use in diagnosing GDM requires further consideration. Communication of changes in diagnostic protocol during pandemics requires strong communication with all requesting clinicians, including those in primary care.

P62 Investigating the Carbon Footprint in Diabetes Research Clinical Trials: A Case Study of the EMERGE Trial

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Healthcare interventions' carbon footprint is gaining attention in the context of climate change, yet clinical trials in diabetes lack comprehensive carbon emission assessments. Given climate change's potential impact on health, it is vital to understand these trials' environmental footprint, especially with new EU regulations addressing carbon emissions. The National Institute for Health and Care Research's framework to assess carbon footprint in various clinical trial dimensions was employed. Data were sourced from delegation logs, trial sites shipments, and records. Assessed areas included trial initiation, Clinical Trials Unit (CTU) emissions, staff activities, treatment, data management, equipment, patient assessments, sample handling, lab work, data analysis, and trial closure. EMERGE trial data was incorporated, and a literature review was conducted to determine the mean emissions factors from other clinical trials for benchmarking. The analysis showed that trial closure and analysis had the highest carbon footprint (52,196 kgCO_{2e}), followed by CTU emissions (38,177 kgCO_{2e}), and lab usage (18,997 kgCO_{2e}). Additional contributing factors comprised trial supplies and equipment (12,646 kgCO_{2e}), treatment intervention (1,500 kgCO_{2e}), patient assessments (152 kgCO_{2e}), trial setup (79 kgCO_{2e}), and samples (61 kgCO_{2e}). The trial's carbon footprint amounted to 30.2-tonne CO_{2e}/year, while the literature review indicated an average of 138.5-tonne CO_{2e}/year for other trials. While this trial exhibited a comparatively lower carbon footprint, there is room for sustainability improvement. We suggest strategies like optimizing lab procedures, effective waste management at trial closure and managing energy consumption. Transparency in reporting carbon footprints and reducing unnecessary waste are essential steps towards sustainable healthcare research.

P63 Barriers to antenatal care: A single centre audit of barriers to antenatal care for women with diabetes in Sligo University Hospital (SUH)

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Ireland has an increasing prevalence of diabetes in pregnancy resulting in the need for multidisciplinary team input. To improve patient care, the Health Service Executive developed guidelines for the management of pre-gestational and gestational diabetes mellitus from pre-conception to the postnatal period. We conducted an audit to assess accessibility and quality of care provided for patients that attended the SUH diabetes antenatal clinic every 2 weeks in September 2022. We distributed anonymous patient questionnaires during the appointment which addressed gestation, type of diabetes, treatments, number of visits to healthcare provider in the last month, accessibility and barriers to attending the different antenatal services. Results showed that 75% of women had gestational diabetes. About 42% of patients attended between 3–5 appointments in the last month and about 61% expressed difficulty in attending the antenatal clinic. The principal reasons were taking time off work, followed closely by childcare and transportation concerns. To address these barriers to care, SUH established a combined Diabetes/Obstetrics clinic off-site, as recommended in the guidelines, which will reduce the number of appointments and consequently reduce disruptions to childcare provisions and work. In due course, we aim to re-audit service users attending this combined off-site clinic to assess for any improvements in barriers to care.

P64 Comparison of Oral Glucose Tolerance Test vs Glucose Challenge Test as Screening Tools for Gestational Diabetes (GDM) – A Single Centre, Pilot Retrospective Review

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Our centre offers universal Oral Glucose Tolerance Testing (OGTT) to all pregnant persons at 24-28 weeks gestation. However, to reduce nosocomial COVID-19 transmission during 2020 lockdown, the Glucose Challenge Test (GCT) was implemented using a 1-hour glucose GDM diagnostic cut-off value ($>7.5\text{mmol/l}$). This pilot study compares the outcomes and test positivity rates in 50 randomly selected GCT positive subjects tested in 2020 to a control group of 50 OGTT positive subjects tested in 2022. During the study period 1,865 pregnancies were tested for GDM. GCT had a greater positivity rate compared to OGTT (306/924 (33.2%) vs 122/941 (13.0%), $p<0.001$). GCT positive subjects had lower BMI ($28.6\pm 6.1\text{kg/m}^2$ vs. 31.2 ± 5.9 , $p=0.035$) compared to OGTT positive subjects. No significant difference in blood pressure, ethnicity and maternal/foetal outcomes was observed. The GCT group were more likely to be managed with diet and lifestyle modification only (30/50(60%) vs. 9/50(18%), $p<0.001$) whereas the OGTT group were more likely to be prescribed insulin (9/50(18%) vs. 33/50(66%), $p<0.001$). There was no difference in foetal birth weight between groups (GCT babies (N=52) $3.34\pm 0.57\text{kg}$ vs OGTT (N=50) $3.35\pm 0.50\text{kg}$, $p=0.57$). There were more Caesarean sections in the OGTT group but this difference did not reach significance (28/50 (56%) vs. 19/50 (38%), $p=0.07$). This preliminary data suggests that GCT identifies a leaner population who are less likely to need glucose-lowering therapy compared to OGTT. Importantly, the use of GCT was not associated with any adverse maternal or foetal outcomes. Future work will involve sample size expansion to help ascertain initial result significance.

P65 Clinical and metabolic phenotyping of a large prospective cohort of Irish women with polycystic ovary syndrome (PCOS); the relationship between insulin sensitivity and serum classic and 11-oxygenated androgens

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Serum 11-oxygenated androgens constitute the bulk of circulating androgens in women with polycystic ovary syndrome (PCOS), however their relationship with metabolic disease remains unclear. We aimed to delineate the relationship between circulating androgens and metabolic risk in a large prospective Irish cohort. We conducted standardised phenotyping, including anthropometric measurements, metabolic assessment and serum steroid profiling. Androgens were measured by immunoassay in all patients; serum multiteroid profiling for classic and 11-oxygenated androgens by liquid chromatography tandem mass

spectrometry (LC-MS/MS) was performed in a subset of PCOS patients. The relationship between insulin sensitivity, body composition and androgens was assessed by Spearman correlation testing and linear regression analysis. A total of 118 participants with PCOS (median age 28.3 [IQR 26-33]; median BMI 32.6 [IQR 26.1-38.7]) and 40 control women were studied. BMI and HOMA-IR were significantly higher in the PCOS cohort ($p < 0.01$ for each). Serum testosterone, androstenedione and DHEAS measured by immunoassay were significantly higher in women with PCOS ($p < 0.01$ for all). Levels of the 11-oxygenated androgens 11 β -hydroxyandrostenedione, 11-ketoandrostenedione, 11-hydroxytestosterone and 11-ketotestosterone were measured by LC-MS/MS ($n=46$) did not differ between women with PCOS when categorised as BMI < 30 and ≥ 30 kg/m². Total fat mass positively correlated with free androgen index ($r=0.52$, $p < 0.01$). A linear regression model identified a significant negative association between the insulin sensitivity index and serum testosterone ($p < 0.05$). This carefully phenotyped cohort highlights the complex relationship between androgens and insulin sensitivity in women with PCOS. Future studies are required to dissect the mechanisms linking androgen excess with metabolic disease in this population.

P66 Weight loss associated with GLP1 receptor agonist use in obese women with polycystic ovary syndrome- a retrospective cohort study

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Introduction

Women with polycystic ovary syndrome (PCOS) have a higher prevalence of obesity, which negatively impacts their fertility, mental wellbeing and long term health. The 2023 international guidelines for the management of PCOS suggest that GLP1 agonists could be considered, but highlight a lack of evidence for medical obesity treatment in women with PCOS. Previous studies have demonstrated that reducing weight by as little as 5% of total body weight has metabolic, reproductive and psychological benefits in women with PCOS.

Methods

We retrospectively collected data on 48 obese women with PCOS attending reproductive endocrinology clinics who were prescribed GLP1 agonist therapy. All women were provided with contraceptive advice. Dietary advice was given by clinicians, but access to specialist dietetic support was not routinely available.

Results

Mean age was 33.1 ± 6.9 years. Median duration of GLP1 agonist therapy was 11 (7-16) months. 94% of the women used semaglutide, 47% were also taking metformin. Mean weight loss was 11 ± 8.6 kg ($p < 0.0001$), representing 10.1 ± 8 % total body weight loss. Mean BMI reduced from 40.5 ± 6.3 kg/m² to 36.5 ± 6.7 kg/m². Mean systolic blood pressure reduced by 7.8 mmHg ($p=0.01$). Mean diastolic blood pressure was unchanged 82 vs 80 mmHg (± 7) mmHg ($p=0.3$). Median HbA1C reduced from 35.5 to 33 mmol/mol ($p=0.026$). There was no significant change in lipid levels. Androgens and gonadotropins were not routinely remeasured after treatment commenced.

Conclusion

GLP1 agonist use in women with PCOS was associated with significant weight loss, reduction in systolic blood pressure and HbA1C.

P67 Clinical needs requiring multidisciplinary support in people attending the National Gender Service.

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The National Gender Service (NGS) provides a holistic model of care for adults seeking medical transition (gender-affirming medical or surgical interventions) that focuses on ensuring that all clinical needs are addressed during transition. This audit was completed to ensure that people attending for review at the NGS had adequate review of all their clinical needs. Records of those attending Review Clinics at the NGS in August 2023 (i.e. those on hormone therapy and/or a surgical pathway) were reviewed to ensure that clinical needs were addressed and multidisciplinary team (MDT) support was in place. 86 people were included: 44 identified as female, 42 as male and 2 as non-binary. Most people were from Dublin (42%) and were aged 18-30

years (71%). In 63 (73%), medical transition consisted of hormonal therapy only, and in 23 (27%) transition including surgery with mastectomy as the most common surgical intervention. 94% of records included a comprehensive review of clinical need. A total of 76% had additional clinical needs identified that required MDT input (sometimes involving multiple MDT members): 32 (37%) accessed Social Work (for family therapy, housing support, or other social needs), 32 (37%) accessed Speech and Language Therapy, 30 (35%) accessed Specialist Nursing (including addiction support), and 26 (30%) accessed Psychiatry. Most people attending the NGS have a complete review of all clinical needs when attending our Review Clinics. Most require MDT input, and many require the support of multiple members of the MDT as they transition.

P68 Identification of clinical need using a structured clinical review template in the National Gender Service.

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The National Gender Service (NGS) provides a holistic approach to gender care and is comprised of a multi-disciplinary team (MDT) who offer a variety of supports. Previous research has shown that there is a younger cohort attending our service with a wide range of clinical needs. Review at the NGS includes evaluation of all clinical needs, including medical issues and mental health, as well as bloodwork. A clinic template is used to ensure that all needs are identified clearly at each clinic visit. This audit assessed the use of this clinic template. Records of those attending Review Clinics at the NGS in August 2023 were reviewed for clinic template use. People attending the NGS have been attending for a median of 4 years (Range 1 – 12 years). In 94% of those attending, the clinic template was used appropriately. All clinical needs were reviewed as per template. Current laboratory results were available in 74/86 (86%). 29% had chronic medical issues that were reviewed at clinic. 63% had chronic mental health issues, 30% were on pharmacotherapy for management of mental health symptoms. 55% were noted to be neurodiverse, including 17% with a diagnosis of autism and 3% with a diagnosis of ADHD. There was widespread use of the template in the NGS which led to clear identification of clinical needs.

P69 A pilot study investigating energy availability and body composition in a cohort of female GAA players.

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Inadequate nutrition knowledge and subsequent dietary intake can increase a female athlete's risk of relative energy deficiency in sports (RED-S). A key stumbling block impeding the development of evidence-based practice guidelines for female GAA players is the paucity of nutrition knowledge and dietary intake data available on these athletes. The Abridged Nutrition for Sports Knowledge Questionnaire (A-NSKQ) assessed nutrition knowledge in this cohort of female GAA players (n=8). Dietary intake was assessed via an online 4-day food diary. Body composition and bone mineral density (BMD) were assessed through dual energy x-ray absorptiometry (DXA). The total nutrition knowledge and specific sports nutrition knowledge for all players was classified as 'poor' ($43.5 \pm 11.8\%$; $39.6 \pm 12\%$, respectively), whilst the general nutrition knowledge was 'average' ($55.6 \pm 19\%$). Suboptimal intakes were observed for carbohydrates 2.4 ± 1 g/kg (5-7 g/kg recommended) and protein 1.1 ± 0.58 g/kg (1.2-2 g/kg recommended), alongside a reduced energy availability of 36 ± 5.71 kcal/kg FFM. Inadequate micronutrient intakes were also reported for calcium (360 ± 179 mg), vitamin D (8.5 ± 19.9 mcg) and iron (3.9 ± 5.2 mg) compared to recommendations (860 mg/d, 15 mcg/d and 7 mg/d, respectively). Mean body mass index (BMI) was 22.5 ± 1.5 kg/m²; lean body mass (LBM) 45.4 ± 4.3 kg and body fat percentage $27.4 \pm 3.4\%$. This pilot data provides important evidence to help inform athletes of the risks associated with suboptimal nutrient intakes, indicating opportunities for nutrition education programmes to support the needs of her.

P70 Low Energy Availability in Female GAA Athletes: A Survey of Prevalence, Awareness and Supports

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Low energy availability (LEA) a feature of the female athlete triad (menstrual dysfunction, LEA and decreased bone mineral density) arises when insufficient calories are consumed to support energy expenditure potentially resulting in reproductive, gastrointestinal, cardiovascular, bone health and sports performance compromise.

The aims of this study were to determine the prevalence and awareness of LEA using the Low Energy Availability in Females Questionnaire (LEAF-Q) in female GAA athletes. Adult female GAA club teams in Ireland were invited to participate in this cross-sectional cohort study. A total of sixteen clubs participated in an online survey which captured LEAF-Q and demographic data. Data was available for 122 athletes; 77 (63%) played Gaelic Football alone, 23 (19%) played Camogie alone and 22 (18%) played both. The median age was 22 years (IQR=9), mean BMI was 24.55 kg/m² (\pm 4.94), and mean training duration 5.14 hours/week (\pm 2.67). Forty-seven (38.5%) participants had a LEAF-Q score of \geq 8 indicating risk of LEA.

Younger age and participation in other sports were associated with increased risk of LEA. Forty-two women (34.4%) reported a change in menstruation during intervals of increased exercise intensity. Awareness of LEA and access to multidisciplinary supports were low.

The prevalence of increased LEA risk is high in female GAA athletes with poor knowledge of this consequence, emphasising the importance of education, access to resources, prevention and early detection to ensure safe participation for women in these sports.

P71 How do people living with overweight and obesity perceive healthcare professionals' representation of the disease on social media.

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It's predicted that by 2035, the majority of the global population will be living with overweight and obesity. Due to its widespread use, social media has a potentially prominent impact on obesity care. Regulatory bodies issue ethical guidance on social media use. However, it is unknown how healthcare professionals' (HCP) online activity affects people living with obesity. We conducted semi-structured interviews with people living with overweight or obesity who use social media. Participants were recruited via the Irish Coalition for People Living with Obesity and three clinical sites offering obesity treatment in Ireland. Interpretative phenomenological analysis was employed to interpret the data. Fifteen interviews took place between April and June 2023. We identified three key themes of how people living with obesity perceive HCPs' online representation of the disease: (i) Negative experiences of HCPs – Participants describe encountering weight stigma and bias from HCPs characterised by simplistic and outdated conceptualisations. These engender shame, fear, and anger. (ii) Positive experience of HCPs– participants report social media allows HCPs to educate and inform public perception on obesity. Positive online experiences lead to feelings of inclusion, understanding and encouragement. (iii) Expectations of HCPs – qualifications, professional titles and academic association affected the perceived trustworthiness of information and its impact on readers. Participants feel there is a duty of care for HCPs to advocate online. Healthcare professionals use of social media has a powerful impact on people with obesity. We propose the 3E framework to guide HCPs' social media use.

P72 Methodological and Cohort Heterogeneity in Epidemiological Estimates of Obesity Prevalence in Ireland.

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Obesity remains a major threat to public health. Several studies have described changes in the prevalence of obesity in Ireland over time, but the extent to which variations in study design might contribute to variations in Irish obesity prevalence estimates has not previously been described. We examined methodological and cohort characteristics of all studies that have quantified obesity prevalence in Ireland. We examined published studies and Irish Government (Department of Health) reports on adult obesity prevalence, noting cohort size, response rates, method of acquisition of weight and height measures used to estimate

body mass index and time of publication of the study. Between 1990 and 2023, thirteen distinct surveys described obesity prevalence in Irish adults. Of these, five used self-reported measures of weight and height, seven used objective measures and one study used both. Studies with objective measures of weight and height found higher prevalence of obesity. While estimates for obesity prevalence increased over 23 years, there was substantial heterogeneity in estimates at any given timepoint. For example, three separate studies in 2019 described prevalence rates of 18, 23 and 26%. The introduction of “Healthy Ireland” surveys in 2015 has brought much-needed methodological consistency to prevalence estimates. Unlike other jurisdictions with longer established and more methodologically consistent cohort studies, inferences about how obesity prevalence has changed in recent decades in Ireland are harder to make. The recent introduction of better-designed and resourced studies is important for meaningful estimates of the changing public health burden of obesity in Ireland.

P73 The interrelation between dietary habits and appetite hormone levels in children.

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The present study aims to examine the relationship between dietary habits and appetite hormone levels in children. Understanding how the diet can impact physiological mediators of appetite in children can provide an insight into long-term effective weight management, and could help ameliorate the growing issue of childhood obesity. Data was collected from 312 participants (mean age 4.57 years). Blood samples and demographic data were retrieved, and a 12-item Mediterranean diet assessment tool was completed. The appetite suppressing hormones glucagon like peptide-1 (GLP-1), peptide tyrosine tyrosine (PYY), pancreatic polypeptide (PP) and leptin were measured from the blood samples. The demographic data included age, z-score body mass index (zBMI), sex and social economic status (SES). The Mediterranean diet assessment tool measured the dietary habits of the participants by calculating their adherence to the Mediterranean diet. No correlation was found between the Mediterranean diet and appetite hormone levels ($p>0.05$). PP and leptin were significantly correlated with an inverse relationship ($r= -0.26$). PYY and leptin were also significantly correlated with an r value of 0.16. There were significant correlations between PP and sex ($p<0.001$, $r=0.22$), zBMI ($p=0.05$, $r= -0.06$) and SES ($p=0.02$, $r=0.16$). There were also significant correlations found between leptin and sex ($p<0.001$, $r= -0.36$), age ($p=0.02$, $r=0.10$), zBMI ($p<0.001$, $r=0.40$) and SES ($p=0.03$, $r= -0.12$). The results of this study show that there is no association between adherence to the Mediterranean diet and appetite hormone levels in children. Other associations between appetite hormone levels and confounding factors were discovered.

P74 Effect of Glucagon-Like Peptide-1 Receptor Agonists for Treating Weight Regain After Bariatric Surgery. A Systematic Review and Meta-Analysis.

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Bariatric surgery is an effective treatment for obesity but after an initial weight loss weight recurrence is common. Glucagon-Like Peptide-1 Receptor Agonists (GLP1-RA) have been available for 2 decades for treating obesity and diabetes and are now used over a wide spectrum of conditions ranging from simple to complicated obesity and diabetes. Multiple studies have used GLP1-RA to treat weight recurrence and resistance to weight loss after bariatric surgery.

The aim of this study was to perform a meta-analysis on the effect of GLP1-RA in post-bariatric surgery patients to contrast weight regain.

We searched multiple libraries database from 2009 to August 31 2023. “Bariatric surgery”, “obesity”, “diabetes”, “liraglutide”, “semaglutide”, “GLP1-RA” were used in various combination. Data were synthesized using a random effect model. BMI change after GLP1-RA treatment was analysed as outcome. In a subgroup of studies Semaglutide and Liraglutide effects were compared.

We retrieved 14 articles for a total population of 1089 patients. When pooling studies using GPL1-RA (Semaglutide and Liraglutide) Effect Size was -1.38 [95% C.I. -1.78 to -0.98, $k=15$ $p<0.0001$]. In subgroup analysis comparing Semaglutide vs Liraglutide, the former appeared more effective in reducing weight with Effect Size -0.66 [95% C.I. -1.16 to -0.16, $k=2$, $p=0.009$].

In conclusion treatment with GPL1-RA agonists in patients regaining weight after bariatric surgery was effective. Studies with head-to-head comparison of Semaglutide and Liraglutide showed a significantly higher effect of Semaglutide. GPL1-RA confirmed to be a useful tool to fight against obesity also in post-surgery patients.

P75 The demographic, clinical characteristics, and outcome of patients with Ketosis Prone Type 2 Diabetes: A Systematic review and meta-analysis.

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Ketosis Prone Type 2 Diabetes is a heterogenous syndrome characterised by diabetic ketoacidosis or unprovoked ketosis at presentation and the absence of the typical phenotype of autoimmune type 1 diabetes. Despite the increasing recognition of this subtype of diabetes, the demographic, clinical characteristics, and outcome of these patients are currently unclear. We performed a systematic review and meta-analysis (Registered Protocol:INPLASY202390053) using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses checklist and Navigation Guide methodology on the demographic, clinical characteristics, and outcome of patients with Ketosis Prone Type 2 Diabetes. Relevant studies were searched using PubMed and Scopus databases from inception until 09/15/2023. Case reports, case series, non-randomised and randomised controlled trials were included if the individual participant data were available. Thirty-five papers met the inclusion criteria. Data was not suitable for meta-analysis. Hence, narrative and descriptive analyses were performed. The average age (\pm Standard Deviation) at presentation was 34.5 ± 16.7 years ($n=69$; 36% female) with an average body mass index of 29.7 ± 6.7 kg/m² and HbA1c of 109.3 ± 28.6 mmol/mol. All patients showed evidence of ketosis with absence of Glutamic Acid Decarboxylase, Islet Cell Cytoplasmic or Insulinoma-Associated-2 or other auto-antibodies. Data on ethnicity were scarce (based on data of 52 patients, 20 were Chinese and 4 were Caucasians). In all patients, the initial insulin therapy was stopped or changed to oral antihyperglycaemic agents within a year. In summary, a high index of suspicion of the diagnosis of Ketosis Prone Type 2 Diabetes among patients with different ethnicity is important for optimal glycaemic management.

P76 Hypo- and Hyperglycaemia in Neonatal Encephalopathy: A Systematic Review

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In managing neonatal encephalopathy, maintaining glucose homeostasis is increasingly recognized as potentially protective for the developing brain. This systematic review examined alterations in neonatal glucose levels and their association with brain injury and neurodevelopmental outcomes. A systematic search strategy following the PRISMA guidelines were used to include 20 papers from PubMed, Scopus, and Embase. Titles were screened for key terms and uploaded for abstract and then full-text review, after which the final studies were selected. Covidence was used for data extraction. Studies that investigated hypo- or hyperglycaemia in neonatal encephalopathy, published between 2000 and 2022 in English, were included. Twenty studies were finalised after full review: retrospective cohort studies ($n=11$), prospective cohort ($n=5$), post-hoc analyses ($n=2$) and two case reports ($n=2$). Ten studies focused on both hyper- and hypoglycaemia, while the remainder investigated hypoglycaemia (7) or hyperglycaemia (3) alone. All studies concluded that glycaemic disturbances are associated with adverse neurological and neurodevelopmental outcomes. Distinct patterns of regional brain injuries can be seen from imaging and electric activities. Systemic multiorgan dysfunction was also associated with neonatal encephalopathy, potentiated by glucose abnormalities. The findings of this paper highlight the importance of vigilant monitoring and effective glycaemic management in neonates with encephalopathy to reduce the burden of associated morbidities and mortalities. Numerous robust guidelines

on glucose management are available. However, a universally accepted definition of glucose abnormality warranting intervention in neonates need to be established to optimize outcomes and ultimately enhance the prognosis and quality of life of vulnerable infants.

P77 Inadequate glucocorticoid stress dosing in patients admitted to an acute hospital.

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Patients on long-term oral glucocorticoids (OGCs) are at risk of developing adrenal crisis during acute illness. However, recent Irish data¹ demonstrated a significant patient knowledge deficit regarding precautions around long-term OGC use. We assessed OGC prescribing in 20 patients on long term OGCs admitted acutely to a level 2 hospital over a 6 month period. Information was also collected on OGC dose, duration and indication, patient awareness of sick day rules, possession of steroid alert card and provision of bone protection. All 20 patients were taking prednisolone as their maintenance OGC, 11 female, median age 78. Median maintenance dose was 5mg daily, median treatment duration was 5.5 years (range 1-40). Polymyalgia rheumatica was the most common reason for OGC use (7/20). 16/20 (80%) were appropriately stress dosed on admission, 3/20 (15%) received their usual OGC dose and 1/20 (5%) received no OGC. 13/20 (65%) were receiving bone protection, 5/20 (25%) were aware of sick day rules, only 1/20 (5%) had a steroid alert card. 20% of patients were at risk of adrenal insufficiency due to inadequate stress dosing. Long term provision of bone protection was inadequate. The acute and chronic management of long-term OGCs needs to improve to avoid complications such as life-threatening adrenal crisis.

¹Courtney A, McDonnell E, Ng WL, Martin-Grace J, Tomkins M, Sherlock M, O'Connell P, Dunne H. Survey of Patient Knowledge and Awareness of "Sick Day Rules" in Rheumatology Patients on Long Term Glucocorticoid Therapy. *Ir Med J.* 2022 Sep 15; 115(8): 655.

P78 Fracture Liaison Services in Ireland – tackling the rising impact of osteoporosis.

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Background

Osteoporotic / 'fragility' fractures are a major burden on healthcare and society in Ireland, using more bed days as primary diagnosis (hospital-coded) than cancer, stroke, heart disease or COPD. Fracture Liaison Service (FLS) is a globally-recognised, evidence-based healthcare system, regarded as the gold standard for secondary fracture prevention. Ireland is the second country after the UK to produce a national FLS database (FLS-DB) report.

Methods

A national FLS-DB was set up in Ireland in 2020. FLS around the country enter data to a web-based platform on patients over 50 years with recent non-hip fragility fracture. Data includes fracture risks, falls risks, DXA, osteoporosis treatment, falls interventions, treatment adherence. Performance is measured against the International Osteoporosis Foundation 'Capture the Fracture' Key Performance Indices.

Results

The 2nd national report included 9 FLS around Ireland and 3,195 cases vs 2,147 in 2021. This represents a third of their expected numbers. Median age 69 years [50-100], 81% female. Thirty-five percent were recommended osteoporosis treatment; 52% of this an injectable drug. Only a third could confirm starting treatment 4 months later. Falls risk assessments and referral rates to exercise programmes were very low. Though performance tended to improve from 2021, there was still considerable missing data overall.

Conclusion

The national FLS-DB in Ireland is a major step towards improving standards of care for those who sustain fragility fractures, however considerable improvements in detection and treatment are needed in order to make inroads into rising fracture numbers in Ireland.

P79 An Audit of Current Practice and Development of Clinical Aids for the Investigation and Management of In-patient Hyponatraemia in Mayo University Hospital.

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Following a previous audit on hyponatraemia's inpatient evaluation, a diagnostic algorithm was designed to enhance investigation in line with the latest European Society of Endocrinology (ESE) guidelines. The current audit represented a comprehensive examination of 485 patients admitted to Mayo University Hospital between April 19th - May 4th, 2023, with a primary objective of reassessing hyponatraemia investigation following the diagnostic algorithm's implementation. The current study assessed 103 patients identified as having hyponatraemia, constituting 21% of the total cohort, contrasting with the previous audit's 81 out of 323 patients (25%) diagnosed with hyponatraemia. Regarding the ESE guidelines: Serum osmolality was assessed in 12.62% of cases in the current study, compared to 30.86% previously; Urine osmolality was evaluated in 5.83% of cases presently, but 33.33% of cases previously; Thyroid function was evaluated in 23.30% of cases presently, compared to 44.44% previously; Cortisol levels were assessed in 4.85% of cases presently, as opposed to 12.35% previously. At time of discharge, hyponatraemia was uncorrected in 49.51%, a slight improvement from previous, where 53.09% were left uncorrected. Regrettably, the diagnostic algorithm's implementation did not result in more comprehensive hyponatraemia investigation. Indeed, our findings represent a deterioration compared to previous. Distinguishing a single cause for this decline is challenging, but hospital changeover, decreased staff retention, decreased awareness of the diagnostic algorithm and diminished appreciation of hyponatraemia adverse outcomes may have contributed. We remain optimistic that improved distribution and consistent provision of formal education regarding the algorithm could enhance its deployment.

P80 Service evaluation suggests variation in clinical care provision in adults with congenital adrenal hyperplasia in the UK and Ireland

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The Congenital Adrenal Hyperplasia (CAH) Adult Study Executive (CaHASE) identified poor metabolic outcomes and reduced quality of life in CAH. CaHASE2 was established to re-examine the status of CAH care. We surveyed clinical practice in the UK and Ireland, and uptake of the International CAH (I-CAH) Registry. We undertook an anonymised online survey targeting clinicians caring for patients with CAH. Respondents answered questions regarding biochemical monitoring, glucocorticoid replacement, management of comorbidities and use of the I-CAH Registry. Among 65 respondents, 42% managed patients with CAH within specialist clinics, whilst the majority managed in General Endocrinology clinics. Clinical assessment frequency was similar in both settings. Notable differences were identified regarding treatment regimens and use of biomarkers. Modified-release hydrocortisone and combination glucocorticoid regimens were utilised more frequently in specialist clinics (62% vs 13%; p=0.001). Androstenedione was measured in 70% of specialist clinics compared to 55% in general services (p=0.44). Renin assessment was greater in specialist than general clinics (81 vs 58%, p=0.25). Amongst specialists, reliance on ACTH (30%) and DHEA-S (44%) was high, indicating limited concordance with guidelines. There was no consensus on optimal timing of monitoring biochemistry, with 57% of respondents not considering glucocorticoid timing. 26% of respondents in specialist clinics used the I-CAH registry; 34% of those in general clinics were unaware of the registry, compared to 19% of subspecialists. This survey suggests marked heterogeneity in CAH care. Future initiatives are required to raise awareness of the I-CAH registry, enabling clinical outcome assessment to standardise management.

PUBLICATION OF ABSTRACT ONLY

CASE REPORTS & CASE SERIES

A1 Hypokalaemic metabolic acidosis - the common and rare collide

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A 39 year old female presented to the emergency department with vomiting, poor oral intake and 2.5 stone weight loss over a 2 month period. She was previously well but reported recent use of powdered ibuprofen for an ankle injury the week prior to admission. There was family history of coeliac disease. On direct questioning, she reported having dry mouth symptoms for 6 months. On admission she had hypokalaemia (2.6mmol) and a normal anion gap metabolic acidosis (sodium 136mmol/L, chloride 121mmol/L, pH 7.15, HCO₃ 10.8mmol/L). Anion gap was 5mmol/L (normal range 4 to 12mmol/L). Biochemistry 4 months prior to this was normal. Urine testing revealed a positive urinary anion gap (urine sodium 49mmol/L, potassium 29mmol/L, chloride 55mmol/L) and inappropriately high urine pH (7.0). Diagnosis of renal tubular acidosis (RTA) was made. She was treated with intravenous then oral potassium replacement along with oral sodium bicarbonate (1200 mg TDS). A rapid improvement in acid-base status on a relatively low dose of bicarbonate was in keeping with a diagnosis of distal RTA (type 1). An autoimmune screen demonstrated strongly positive anti-Ro (SS-A) antibody >240U/ml, which along with the patient's symptoms point towards a probable diagnosis of Sjögren's syndrome. Sjögren's syndrome is an autoimmune driven chronic inflammation of the lacrimal and salivary glands. Although Type 1 RTA is increasingly seen in the acute medical take due to codeine-NSAID combined preparation abuse, rarer causes should be excluded. Type 1 RTA is typically autoimmune in nature, and autoimmune causes should be sought in all cases.

A2 When variants of unknown significance become highly significant: a case of sitosterolaemia

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Variants of uncertain significance (VUS) are occasionally reported when genetic testing is performed in patients suspected of having familial hypercholesterolaemia (FH). Clinical discretion is required to interpret such results, though a degree of uncertainty remains due to nature of the variant classification. Many such patients may be labelled "likely FH."

A 39-year-old woman was referred for the assessment of severe hypercholesterolemia. Her peak untreated low density cholesterol was 5.7 mmol/L. She followed a moderately healthy lifestyle, with no personal or family history of cardiovascular disease, or physical stigmata of dyslipidaemia. CT angiography showed coronary artery calcification and a calcium score on the 90th percentile. She was commenced on atorvastatin and ezetimibe. Genetic testing was performed to look for a FH-linked mutation. Genetic results revealed two VUS in the ABCG8 gene. Parental screening revealed inheritance of one allele from each parent. As ABCG8 variants are associated with sitosterolaemia, phytosterol analysis was performed. Results showed a marked raised sitosterol (258.3 umol/L), and campesterol (119.6 umol/L), in keeping with sitosterolaemia.

ABCG5 and ABCG8 gene variants may be screened for when patients have suspected FH. Sitosterolaemia is a rare autosomal recessive lipid disorder leading to increased absorption of dietary plant sterols, and the premature development of coronary artery disease. Management includes dietary plant sterol restriction, along with ezetimibe. Statins are less effective, though reduce concurrent LDLc. This case highlights the importance of further investigating a VUS if clinical suspicion is high, as well as the importance of considering sitosterolaemia in such cases.

A3 Spontaneous Hypoglycaemia in People Without Diabetes

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Spontaneous hypoglycaemia in someone without a history of diabetes is a rare but often challenging presentation. We describe 3 cases of different aetiologies of spontaneous hypoglycaemia in people without diabetes. 45-year-old gentleman presented with a 2-year history of episodic confusion and agitation. Random serum glucose was 2.3mmol/L. Within 10 hours of a 72-hour fast, plasma glucose dropped to 2.2mmol/L, blood ketones of 0.8mmol/l, matched C-peptide 867pmol/L(364-1456), insulin 14.9mU/L(2.6-24.9), and proinsulin 12.6pmol/L(<10). Endoscopic ultrasound identified a well-defined, homogenous lesion in the pancreas. Whipple's procedure was performed, and a neuroendocrine tumour removed. 72-year-old gentleman presented following a pre-syncopal episode. Random serum glucose was 2.6mmol/L. During a 72-hour fast, glucose fell to 2.4mmol/l with a matched insulin of 2.9mU/L, C-peptide 331pmol/L and proinsulin 4pmol/L. Ketones rose significantly during the fast to >5mmol/L. Blood glucose and ketone levels normalised on re-feeding. A diagnosis of idiopathic ketotic hypoglycaemia was made. The patient was advised to avoid prolonged fasts and no further hypoglycaemic events were noted. 43-year-old gentleman presented to the ED with a seizure. Finger-prick glucose was 1.2mmol/L. Recurrent hypoglycaemia was noted requiring admission to ICU and a continuous infusion of 20% dextrose to maintain normoglycaemia. Paired biochemistry revealed a serum glucose of 1.7mmol/L with elevated insulin levels of 305mU/L, low C-peptide 232pmol/L and proinsulin 9pmol/L. A diagnosis of exogenous insulin administration was made, which the patient denied. Psychiatry input was sought. This case series highlights the importance of accurate interpretation of the biochemical work-up of hypoglycaemia to allow for timely diagnosis and appropriate management.

A4 TSH-oma and Response to Medical Therapy

Deirdre Green, DJ O'Halloran

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Thyrotropin (TSH)-secreting pituitary tumours (TSH-omas) are a rare cause of hyperthyroidism. They account for less than 1% of all pituitary adenomas. Failure to correctly diagnose a TSH-oma may result in dramatic consequences, such as improper thyroid ablation with resultant increase in tumour mass. We present the case of a 73-year-old lady referred to our endocrinology clinic for assessment. Her past medical history included hyperthyroidism treated with Carbimazole 5mg daily, diagnosed 5 years previously. She was clinically euthyroid with a small goitre. She had no family history of thyroid disease. Her thyroid function tests revealed an elevated TSH (4.98mIU/L, 0.35-4.94) with a persistently elevated free-T4 (20.3pmol/L, 9-19.1) and free-T3 (8.4pmol/L, 2.4-6). She proceeded for a TRH test which revealed a blunted response (basal TSH 2.22mIU/L, 60-minute TSH 2.66mIU/L). Alpha subunit was elevated at 3.17iU/L (<3). Basal and glucagon stimulated pituitary function was normal. MRI pituitary identified a pituitary macroadenoma (1.5x2x1.9cm) with invasion of the left cavernous sinus. A diagnosis of hyperthyroidism due to a TSH-secreting pituitary macroadenoma was made. Treatment was commenced with Cabergoline 0.5mg twice per week. After 8 weeks, there was no biochemical response. She was changed to somatostatin therapy (Lanreotide Autogel 60mg every 28 days) which resulted in normalisation of free-T4 (13.2pmol/L) and free-T3 (4.5pmol/L) levels. The pituitary lesion is stable on serial MRI imaging. This case highlights the importance of accurate interpretation of biochemistry to allow for timely diagnosis and management. Biochemical response was achieved with somatostatin therapy in this case.

A5 Technology Use in Older Patients with Type 1 Diabetes (T1DM): A Case Series

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Improved diabetes management has resulted in improved life expectancy for patients with T1DM, however there can also be challenges associated with ageing in this cohort. This case series features three elderly patients with T1DM for whom diabetes technology minimised hypoglycaemia and improved quality of life.

Case 1: An 80 year old lady with T1DM for 50 years developed unexplained hypoglycaemia in 2020 with an associated fear of hypoglycaemia which limited her independence. She was trialled on the Dexcom G6 sensor (Dexcom, Inc) and the alarm

function was protective against hypoglycaemia. The sensor also assisted with Levemir® dosing during breast cancer treatment with chemotherapy and steroids.

Case 2: A 72 year old gentleman with T1DM for 40 years has a significant psychiatric history and a history of poor glycaemic control. He had recurrent severe hypoglycaemia requiring hospital admission. While resistant to changes in his insulin regimes the Dexcom G6 sensor (Dexcom, Inc) and alarm function were protective against hypoglycaemia and allowed him to avoid nursing home care.

Case 3: A 77 year old gentleman with T1DM for 60 years had HbA1cs between 42-50mmol/mol and Times in range of 85%. He had recurrent hypoglycaemia on a non-sensor augmented insulin pump, as he was giving extra insulin boluses when he wasn't eating. He transitioned to the T;Slim pump and Dexcom G6 sensor, which allowed prevention of hypoglycaemia while maintaining tight glycaemic control.

In our cases, diabetes technology, particularly continuous glucose monitoring, was valuable in helping older people live well with T1DM.

A6 Artifactual hypoglycaemia due to Raynaud's phenomenon

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Point-of-care glucometers measuring capillary blood glucose remain a common method of measuring blood glucose. However, their accuracy can be affected by several factors, including tissue perfusion. We report the case of patient with artifactual hypoglycaemia due to Raynaud's phenomenon.

An 85-year-old woman was admitted with an embolic stroke. As part of routine post-stroke care, she had capillary blood glucose (CBG) measured regularly on a point -of -care glucometer.

During the first 24 hours of admission, she had recurrent hypoglycaemic episodes, with CBG as low as 2.8 mmol/l. She was asymptomatic throughout. She was treated with Lucozade and 20% IV dextrose but had recurrence of this apparent hypoglycaemia.

Upon review by the endocrine team, it was noted that her right hand displayed clinical evidence of Raynaud's phenomenon, and suspicions were raised that this was the cause for her apparently low CBG readings. To confirm this suspicion, she had simultaneous CBG measurements from both hands, in addition to a plasma venous glucose concentration. Capillary blood glucose from her right hand was 3.7 mmol/l, but left hand was 6.1 mmol/l, and plasma venous glucose was 5.8 mmol/l. The patient had CBG measured from her left hand only thereafter for remainder of her admission, and remained euglycaemic.

This case highlights the need for high clinical suspicion in patients with Raynaud's phenomenon who have hypoglycaemic readings obtained by capillary blood glucose measurements yet do not fulfil Whipple's triad. Early recognition in this case avoided unnecessary investigations and over-treatment.

A7 A sporadic case of young onset primary hyperparathyroidism (PHPT) and impact on bone mineral density

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PHPT is associated with end-organ damage, affecting bones, kidney, heart, gastrointestinal tract and central nervous system. This is a case study of a 19-year-old girl, who presented with chest pain, thirst and polyuria. She reported a long-standing history of bone pains, poorly developed dentition and multiple renal calculi. There was no history of fractures or no

personal/family history of hypercalcaemia or neuroendocrine conditions. Laboratory investigations were consistent with PHPT (high serum corrected calcium 3mmol/L, normal creatinine 56umol/L, elevated PTH 216pg/ml, vitamin D 41nmol/L, elevated 24-hr urinary calcium 10.4mmo/L). She was treated with IV fluids, Cinacalcet and Zoledronic acid. Radiology imagings identified right posterior parathyroid adenoma, which was resected. She developed transient hypocalcaemia (serum corrected calcium 1.88mmo/L) at post-op, which was treated with IV calcium gluconate, oral calcium and vitamin D supplementation. DXA scan at one-day post-op, demonstrated lumbar spine bone mineral density (BMD) 0.762g/cm², Z-score of -2.7; total left hip BMD 0.667g/cm², Z-score of -2.3; total left forearm BMD 0.487g/cm², Z-Score -3.4. Targeted next generation sequencing of *AP2S1*, *CASR*, *CDC73*, *CDKN1B*, *GCM2*, *GNA11*, *MEN1*, *RET* genes did not identify a pathogenic variant. The patient reported resolution of bone pains and serum calcium remained normal over one year post-op, and she is awaiting repeat DXA scan. Our case demonstrated the profound impact of PHPT on BMD in a young person. We anticipate a significant increase in BMD following parathyroidectomy as studies of PHPT patients demonstrated approximately 40% improvement of BMD in the lumbar spine and the hip, 2 years after surgery.

A8 Panhypopituitarism Post Extracranial Radiotherapy: A Case Report

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Introduction:

External beam radiotherapy to the head and neck region, for non-pituitary tumours may be complicated by hypopituitarism. We report a case of radiotherapy-induced hypopituitarism many years after maxillary radiotherapy.

Case Presentation:

A 57-year-old lady presented with confusion and hyponatraemia (Serum Na: 120mmol/L, Urine Na: 152mmol/L). Significant medical history included pT4N0M0 squamous cell carcinoma of the left maxilla, requiring surgical resection and adjuvant radiotherapy (56Gy total dose) in 2010.

Investigations demonstrated a low AM Cortisol (52nmol/L), and inadequate response to short synacthen test (Time 0: 31nmol/L; Time 30: 155nmol/L; Time 60: 252nmol/L). ACTH was inappropriately low, consistent with secondary adrenal insufficiency Hyponatraemia resolved and she recovered on hydrocortisone Further investigations demonstrated; secondary hypothyroidism, TSH 1.37mIU/L, T4 7.2 pmol/L (reference range: 0.8-20 pmol/L, and inappropriately low gonadotrophins, LH 0.4 IU/L, FSH 4.9 IU/L, Estradiol <88 pmol/L, prolactin 933 mIU/L. There was no evidence of diabetes insipidus. MRI Pituitary ruled out a pituitary mass lesion. These investigations were consistent with hypopituitarism secondary to prior facial radiotherapy.

Discussion:

Radiotherapy-induced hypopituitarism can result in significant morbidity with an incidence increasing with the total dose of radiotherapy. Late pituitary damage following craniofacial radiotherapy is not well recognised. However, regular, planned follow up in the endocrine clinic can lead to early diagnosis and appropriate treatment of pituitary hormone deficiencies. Relevant literature recommends post-radiotherapy baseline evaluation, with 6-month pituitary assessment following radiotherapy, and subsequent yearly assessment,. This case highlights the need for vigilance and routine pituitary assessment following craniofacial radiotherapy.

A9 The use of Control IQ Hybrid Closed Loop Technology for Glycemic Control in Adults with Cystic Fibrosis-Related Diabetes CFRD

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CFRD is a challenging type of diabetes . The new technology in DM therapy is started to be used more frequently, however, there is no sufficient data studying the impact of hybrid closed loop (HCL) technology on glycemia in this patient population. We present our case as he is first patient with CFRD to use the t-slim insulin pump in our centre. He is a 37 years old male patient with a history of CF with N1303K/R560T mutations. Baseline FEV 1 was 2.39 L on waiting list for lung transplant. His medications were: Creon 1000mg with meals, plus regular antibiotics and on nocturnal oxygen, 1 L .Was on Insulin MDI as: insulin fiasp pre-meals and Levemir once daily and CGM dexcom G6. In June :Target in range (TIR) 36% low and very

low both were <1%, GMI 8.5%, Average Glucose :12.1 mmol. Coefficient of variation 37.6% CGM active time 99.5%. After using insulin pump for 2 months in September 2023, TIR :57%, low <1% ,very low 0%, GMI 7.6% average glucose 10 mmol/l . coefficient of variations to 36.3% (goal <36%). CGM active time 99.8%.

Conclusion : HCL system use resulted in improving glucose control. The use of this insulin pump has a potential good outcome in improving the blood sugar control in this type of diabetes . Future studies are needed to understand the potential long-term glycemic benefits of HCL devices and to explore the impact of this technology on health-related quality of life, pulmonary function, nutritional status, and mortality.

A10 Hypoglycemia as a presenting symptom of profound severe hypothyroidism with a TSH of 210 mIU/L

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We present a case of a 57 year old male carpenter with no significant medical history who presented to the Acute medical assessment unit following an episode of dizziness and weakness while working at a school project. The school nurse who was present at the scene checked the capillary blood glucose and found it to be 2.2mmol/l and referred him to the hospital. On further probing the history, the patient complained of generalized fatigue and lethargy for about 2 months with feeling unusually cold and progressive muscle pains and cramps especially in the forearms and lower legs for the last 2 weeks. Patient's wife noticed some facial puffiness although it was not prominent even on comparison with previous photographs. He had a strong family history of thyroid disorders with 4 siblings affected. His blood tests showed normal cell counts with moderate hyponatremia of 125mmol/L (normal 135-145 mmol/L) and raised Creatinine kinase of 5335 IU/L (normal 40-320 IU/L). Subsequent thyroid function tests showed a TSH of 210 mIU/L (normal 0.27 – 4.2 mIU/L) and undetectable free T4, grossly deranged serum lipids and a normal cortisol. His anti Thyroid Peroxidase antibodies were elevated at 269 IU/ml (normal 0-34 IU/ml) suggesting an autoimmune etiology in keeping with familial pattern. A diagnosis of primary hypothyroidism with associated hypothyroid myopathy was made. The patient was started on oral thyroxine replacement and is due to attend clinic in 4 week's time for review.

A11 Back to Basics, Importance of Insulin Administration Technique

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This case series highlights the significance of insulin administration technique education in achieving optimal glycaemic control, regardless of patient experience. The first case involved a 49-year-old patient with Type 1 Diabetes Mellitus and Crohn's disease who experienced deteriorating glycaemic control following Ustekinumab initiation. Despite being deemed competent in managing his diabetes and a DAFNE (Dose Adjustment for Normal Eating) graduate, his insulin doses had to be adjusted by the diabetes team on multiple occasions and metformin initiated. His condition worsened and he was admitted with diabetic ketoacidosis. A thorough review revealed an incorrect insulin administration technique, which he learned by emulating another patient receiving the Ustekinumab infusion. This was promptly corrected while he was an inpatient, resulting in significant glycaemic improvement. The second case involved a 51-year-old patient with Type 2 Diabetes Mellitus and chronic pancreatitis who was initially managed with oral agents but presented with Hyperosmolar Hyperglycaemic State (HHS). He was deemed competent with insulin administration technique prior to discharge home but his insulin requirements continued to escalate over a period of few weeks. A detailed review uncovered incorrect insulin administration technique, rectifying which led to reduced insulin needs and improved glycaemic control. These cases emphasize the significance of ongoing education and technique assessment in both outpatient and inpatient settings, stressing the importance of diligence in insulin administration.

A12 A Case of secondary hyperaldosteronism with unilateral atrophic kidney

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Secondary hyperaldosteronism is caused by reduced renal blood flow, which stimulates the renin-angiotensin-aldosterone system.

We describe a case of 44-year-old lady with a history of obesity, hiatus hernia and hypertension in pregnancy, who initially presented to Emergency Department with one day of frontal headache and confusion. Her blood pressure on arrival was 211/112mmHg. Her weight was 99.4kg and BMI of 39kg/m². Clinical examination was unremarkable and she had no neurological deficit. Her urea and electrolytes were normal (Na 140mmol/L, K 4mmol/L, urea 5.4mmol/L, creatinine 74µmol/L). Further evaluation for secondary causes of hypertension showed significantly elevated level of plasma aldosterone 2154pg/ml with high plasma active renin 37.50pg/ml (Eurofins Biomnis lab via Midland Regional Hospital Portlaoise), aldosterone:renin ratio (ARR) 57.44 and normal urinary metanephrines. Serum cortisol at post-dexamethasone was appropriately suppressed (42nmol/L). Repeat tests showed higher plasma aldosterone 6372pg/ml, active renin 127pg/ml, ARR 50.09 (Eurofins Biomnis lab). CT adrenals and CT renal angiogram demonstrated normal adrenals, left atrophic kidney with scarring with no evidence of renal artery stenosis. She proceeded to have saline suppression test, which showed 0-min plasma renin 249.5mIU/L, 240-min plasma renin 119.2mIU/L, 0-min plasma aldosterone >3000pmol/L, 240-min plasma aldosterone 2000pmol/L (Beaumont lab). This is consistent with secondary hyperaldosteronism likely from unilateral atrophic kidney.

Unilateral atrophic kidney without renal artery stenosis is an uncommon cause of renovascular hypertension and should be evaluated further with plasma aldosterone and renin in case of hypertension. Our case highlights the degree of hypertension and secondary hyperaldosteronism caused by unilateral atrophic kidney.

A13 HCL systems during challenging periods intra- and post-partum. A case series.

Julie Gaine, Kelley Hennigan, Lisa M Kelly, Ann Ferguson, Siobhan Bacon.

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The Medtronic MiniMed™ 780G System is an advanced hybrid closed-loop system and has proven to be extremely beneficial in the management of T1DM. However, the MiniMed 780G system is not authorised for use in pregnancy. We examined the glycaemic control of three women who elected to continue wearing their 780G insulin pump throughout pregnancy. We examined the time in range (TIR) during and after the administration of antenatal dexamethasone, during labour and for 4 weeks post-partum. Maternal and neonatal outcomes were captured using electronic and paper records (Prowellness, Euroking databases). The table below contains the % TIR for those time periods. All deliveries were via Caesarean section with no episode of neonatal hypoglycaemia. All women reported high satisfaction levels using the pump and no adverse issues arose intra-partum with the technology.

Although limited data, the Medtronic system using SmartGuard technology has the ability to tightly regulate glucose levels in pregnancy.

TIR (3.5-7.8 mmol during pregnancy, 3.9-10 mmol post partum)	Woman 1	Woman 2	Woman 3
Post-steroid administration (5 day average)	59%	81%	90%
Day of delivery	88%	88%	99%
4 weeks post-partum	90%	92%	69%*

*Spent only 16% of time on SmartGuard and the remaining 84% in manual mode

A14 Right homonymous hemianopia resulting in road traffic accident in two males presenting with hyperprolactinaemia

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The first case is of a 70 year old male who presented following a road traffic accident due to an inability to visualise an oncoming car to his right. MRI pituitary confirmed a 5.4x4.6x5cm pituitary macroadenoma with compression of the optic chiasm and left prechiasmatic optic tract, with invasion of the left cavernous sinus. Formal visual fields confirmed a right homonymous hemianopia. Prolactin was elevated at 343,621mIU/L. His history was negative for symptoms of hyperprolactinaemia. He was commenced on cabergoline without complication with resultant lowering of prolactin.

The second case is a 53 year old male presenting following a road traffic accident involving colliding with an object on his right side. MRI pituitary confirmed a 4x3.8x3.3cm pituitary macroadenoma with encasement of the left internal carotid artery and optic chiasm involvement. Formal visual fields confirmed a right homonymous hemianopia. Prolactin level was elevated at 206,599mIU/L. His clinical history confirmed one year of visual disturbance and symptoms of hypogonadism. Following commencement of cabergoline, his clinical course was complicated by cerebrospinal fluid leak requiring surgical debulking and lumbar drain insertion.

Pituitary macroadenoma associated visual field disturbances are present in approximately 46% of cases. They are most commonly due to optic chiasm compression leading to bitemporal hemianopia or asymmetrical hemianopia, and asymmetrical compression of the chiasm or optic nerve causing monocular visual change. However, rarely optic tract compression occurs causing homonymous hemianopia. Indeed, this visual field defect was the cause of presentation in both these cases.

A15 Acute Presentation of Immune Checkpoint Inhibitor-Induced Diabetes Mellitus with Diabetic Ketoacidosis

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Immune checkpoint inhibitors (ICIs) have revolutionized cancer treatment but are associated with adverse events including endocrinopathies. ICI-induced diabetes mellitus is rare and the overall incidence ranges from 0.9 – 2%. This report highlights a case of ICI-induced diabetes mellitus presenting with diabetic ketoacidosis (DKA).

A forty-three-year-old female with metastatic melanoma completed four cycles of combined ipilimumab - cytotoxic T-lymphocyte-associated antigen 4 (CTLA-4) inhibitor and nivolumab - programmed cell death protein 1 (PD-1) inhibitor therapy. Thereafter, she commenced monthly maintenance therapy with nivolumab. After six cycles, she presented to the hospital reporting polydipsia and abdominal pain. The arterial blood gas reported a pH <6.8, an undetectable bicarbonate and a glucose level of 26.1mmol/L. Ketones were 6.2mmol/L. She was started on the DKA protocol and transferred to the intensive care unit. Further investigations revealed a low c-peptide of 118pmol/L (reference range 370 – 1470), HbA1c of 68mmol/mol and a negative glutamic acid decarboxylase antibody test.

The diagnostic challenge is differentiating ICI-induced diabetes mellitus with immune β cell destruction from ICI associated exacerbation of Type 2 diabetes, Type 3c diabetes and generalized lipodystrophy. The European Society for Medical Oncology Clinical Practice Guideline recommends a baseline glucose level and HbA1c to identify and optimize the management of pre-existing diabetes before commencing treatment, in addition to random glucose checks during each cycle for routine monitoring. This case highlights the importance of recognizing new hyperglycemia during treatment with ICIs as an entity that requires prompt investigation and management, with the overall goal of preventing complications like DKA.

A16 Cardiomyopathy and autoantibody positive diabetes with insulin resistance – a case of a PRKAG2 mutation

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PRKAG2 syndrome is an autosomal dominant condition caused by mutations in the $\gamma 2$ regulatory subunit (PRKAG2) of 5'AMP-activated protein kinase (AMPK). We present a case of a 45-year-old woman with a 1463A>T mutation in the PRKAG2 gene which has been described to cause a N488I substitution in the regulatory subunit and overactivation of AMPK. Our patient has a strong family history of PRKAG2 syndrome, and a sister with type 1 diabetes. Electrophysiological studies at age 25 years revealed significant conduction system disease although she was asymptomatic. She eventually developed ECG pre-excitation and cardiac hypertrophy, requiring pacemaker insertion at age 40. At 26 she was diagnosed with diabetes and initially managed with metformin and later gliclazide. Two years later she was found to have positive GAD, insulin and weakly positive islet cell antibodies. Notwithstanding this, her fasting C-peptide was elevated at 3.3 ng/ml with a glucose level of 14.5 mmol/L. Insulin was initiated due to antibody positivity and suboptimal control. Her insulin requirements are substantial; her most recent BMI is 29.1 kg/m² with a basal insulin requirement of approximately 120 units, and a bolus insulin:carbohydrate ratio of 1:3. The N488I substitution is known to be pathogenic for cardiac disease with associated glycogen deposition in the ventricular myocytes and hypertrophy. We propose that a similar accumulation of glycogen in skeletal muscle may provide a mechanism for insulin resistance in this woman. The primary aetiology of diabetes in our patient is unclear and may be multifactorial with evidence both of beta cell autoimmunity and insulin resistance.

A17 Case report of a novel FGFR1 mutation variant. Deafness not anosmia as defining symptom in Kallmann Syndrome.

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Kallmann syndrome is a rare form of congenital hypogonadotropic hypogonadism, characterised by the presence of anosmia or hyposmia. Our case differs in that the individual did not endorse anosmia, but rather a significant degree of deafness. A gentleman in his twenties presented with low testosterone levels, small genitalia, a lack of axillary and facial hair, an undescended right testicle and a hearing deficit. His secondary sexual characteristics were documented as being consistent with stage 2 on the Tanner system, also having a history of polydactyly at birth and multiple traumatic fractures as a child. Laboratory tests demonstrated a significantly low LH and FSH and a total testosterone of 0.9 nmol/L (10-35 nmol/L). An MRI pituitary revealed a normal pituitary gland with no abnormalities of the olfactory bulbs noted. He started on testosterone replacement therapy using Nebido 1000mg injections every 10 weeks, and was referred for orchidopexy and genetic testing. The initiation of testosterone replacement therapy was successful, noting higher muscle mass, deeper voice and hair growth 4 months into therapy. Genetic testing revealed a novel variant of the FGFR1 mutation, one that led to the frameshift and premature stop-codon in the FGFR1 protein on Chromosome 8. We hypothesise that the novel variant is connected to the symptom of hearing loss and history of polydactyly. Clinical characteristics to date have placed an emphasis primarily on anosmia as typical for Kallmann syndrome, however a small number of case studies, including this current study now report links between the FGFR1 mutation, deafness and bony abnormalities.

A18 Case report of factitious hypoglycaemia.

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Hypoglycaemia occurs when blood glucose levels are reduced causing symptoms such as weakness, diaphoresis, palpitations, confusion and loss of consciousness. We report the case of a 41 year old lady who presented to Letterkenny Hospital after being found unresponsive in bed by her husband. On arrival she was diaphoretic and clammy with a Glasgow Coma Scale of three. She had no past medical history and physical examination unveiled bilateral lower abdominal bruises. Her venous blood gas on arrival showed a glucose level of 0.8 mmol/L (2.6 mmol/L – 5.3 mmol/L) and she was commenced on high dose intravenous dextrose. Upon arousal she reported no family history of diabetes however her husband was diabetic. On further questioning of her abdominal bruises which looked like injection sites, she denied any exogenous insulin usage and stated her four year old child was jumping on her tummy. Further blood tests revealed a low C-peptide level (0.2 ng/mL) (1.1 -4.4 ng/mL), high insulin (143.01) (3.4-19.60 pmol/L) and low pro-insulin (1.2 pmol/L) (3.4-20.4 pmol/L). The above laboratory tests together with the clinical presentation confirmed hypoglycaemia secondary to exogenous insulin. Factitious hypoglycaemia

occurs when insulin or insulin secretagogues are surreptitiously used in an attempt to reduce blood sugar levels. Research has shown that it usually occurs in females in health related occupations or those with diabetic relatives and is associated with underlying psychiatric disturbances. It is crucial that clinicians consider exogenous insulin usage in their differential diagnosis for patients presenting with non-diabetic hypoglycaemia as this can reduce costly and avoidable investigations which poses endocrinologists.

A19 Type 1 Diabetes Mellitus (T1DM) is a Potential Rare Immune Response to Immune Checkpoint Inhibitor Treatment with Pembrolizumab.

Farooq Khan, Maria Carey, James Ryan.

Mercy University Hospital Cork.

The advent of immune checkpoint inhibitors has revolutionized cancer treatment, but they can also lead to a range of immune-related adverse events, including autoimmune diabetes mellitus. A 74-year-old lady with a background of metastatic non-small cell lung adenocarcinoma (PD-L1 positive), presented to the emergency department with a five-day history of polydipsia, polyuria two days after her third dose of pembrolizumab. Her initial biochemistry was consistent with hyperglycaemic hyperosmolar state and pre-renal acute kidney injury. She was treated as per hospital protocol with IV Insulin and later transitioned to a subcutaneous insulin regime. Her diabetic autoantibody screen was positive for anti-glutamic acid decarboxylase and pancreatic islet cell autoantibodies. HLA genotype analysis identified homozygosity for the haplotype DRB1*13 and DRB1*15. This patient was diagnosed with immune checkpoint inhibitor induced T1DM secondary to pembrolizumab. The aim of this report is to provide clinicians with an insight and promote awareness relating to diabetes mellitus as a potential rare immune response to immune checkpoint inhibitor treatment. Predisposing factors like the HLA genotype could clarify the vulnerability of certain individuals to risks.

Reference: Jeroen M K de Filette and others, Immune checkpoint inhibitors and type 1 diabetes mellitus: a case report and systematic review, *European Journal of Endocrinology*, Volume 181, Issue 3, Sep 2019, Pages 363–374, <https://doi.org/10.1530/EJE-19-0291>

A20 Case Report: Establishing Ireland's first metabolic clinic in the National Forensic Mental Health Service.

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Forensic mental health patients have higher rates of cardiovascular disease and diabetes compared to the general population. Access to healthcare is often restricted due to issues of risk and patient safety. We present the establishment of a multidisciplinary metabolic clinic in the National Forensic Mental Health Service (NFMHS) with the aim of targeting physical health needs via non-pharmacological and pharmacological treatment strategies. The clinic was established in March 2023 and consists of a consultant endocrinologist, physiotherapist, and dietitian. We report the case of a 41 year-old male with paranoid schizophrenia and type 2 diabetes mellitus who was referred to the metabolic clinic with rising blood sugar levels, increased weight and had recently been started on insulin. Dulaglutide 0.75mg was introduced and metformin up titrated (from 500mg BD to 850mg BD), he received dietetics education relating to food choices and portion sizes and underwent physical testing with physiotherapy. His weight fell from 112kg to 82kg (18% weight loss), fasting glucose from 22.5 to 6.8mmols/l (69% reduction), HBA1C from 112 to 32 mmol/mol (71% decrease), total cholesterol from 6.3 to 2.4mmol/l (62% reduction) and triglycerides from 14.2 to 3.6mmol/l (75%) over a six month period. Insulin was successfully stopped. The establishment of the metabolic clinic allowed for early targeted intervention to improve patient outcomes. MDT approach may lead to lower costs in the long run by preventing metabolic complications. GLP1 agonist use offers a viable treatment option in this population.

A21 Asymptomatic pheochromocytoma in a patient with adrenal incidentaloma

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We report a 37-year-old male with a long-standing history of nocturia and dysuria. Further evaluations with CT-kidneys, ureters and bladder showed an incidental rounded left 3x2 cm mildly hyper-attenuating adrenal mass, thus indicative of an adrenal incidentaloma. He had no headache, diaphoresis, palpitations, or hypertension. Physical examination was unremarkable including heart rate and blood pressure (24-hour blood pressure monitoring with overall average 124/86mmHg, with a range of 117/77-126/88mmHg). Adrenal hormone work-up showed elevated plasma normetadrenaline [1.2nmol/l (reference range<0.71)] and plasma metadrenaline [5.62nmol/l (reference range<0.36)]. A repeat test showed a persistent elevation of both plasma normetadrenaline and metadrenaline at 1.52nmol/L and 6.52nmol/L, respectively. FSH, LH, testosterone, post-dexamethasone suppression cortisol (26nmol/L), serum aldosterone (143pg/ml), active renin (5.6pg/ml), aldosterone:renin ratio (25.54), DHEAS (8.96umol/L) and delta-androstenedione (4.89nmol/L) were within normal limits. CT adrenals with contrast demonstrated a left adrenal rounded 3cm mass with Hounsfield unit 43/84/60 and absolute washout calculation 60% and relative washout 28%, thus, not consistent with adenoma. MIBG scan was also indicative of a solitary left sided pheochromocytoma. Following alpha blockade with doxazosin, the patient underwent laparoscopic resection of the left adrenal mass, which was confirmed to be pheochromocytoma histologically. At post-surgery, the patient remained well and repeat plasma metanephrine levels were normal. In conclusion, our case demonstrated that a patient may not have classical symptoms of pheochromocytoma (triad of episodic headaches, diaphoresis, and palpitations), could have significantly elevated plasma metanephrine levels, thus, highlighting the importance of an urgent assessment of adrenal masses in people <40 years of age.

A22 Unusual Plurihormonal Tumor Co-Expressing Pit-1 and SF-1

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We present the case of a 50-year-old female diagnosed with acromegaly following presentation with changes in her physical appearances, joint pain and bilateral carpal tunnel syndrome. MRI pituitary demonstrated a 12mm pituitary adenoma with no involvement of the optic chiasm. IGF-1 was grossly elevated at 976µg/l (51-191µg/L). She was TSH deficient at time of diagnosis. She was managed with octreotide pre-operatively with significant symptom improvement and subsequently underwent endoscopic transphenoidal excision of her pituitary adenoma. Immunohistochemical staining demonstrated mature plurihormonal Transcription factor Pit-1 lineage PitNET with extensive GH expression and variable prolactin and alpha-subunit expression with focal ER-alpha nuclear signal. Steroidogenic factor 1 (SF-1) nuclear signal was also identified in a lesser proportion and same cell for Pit-1. This could be viewed as a possible stem cell tumour with dual lineage differentiation. Of note, Tpit, ACTH, TSH, LH and FSH signal were absent. The tumour is well differentiated with low MIB-1 proliferative index of <3%. Post operative OGTT, ITT and water deprivation test demonstrated inadequate suppression of GH (nadir 0.6ug/L), adequate ACTH/cortisol response and partial AVP deficiency. To the best of our knowledge, only 1 case report demonstrated plurihormonal tumour with dual lineage differentiation with Pit-1 and SF-1 which was poorly differentiated. This case illustrates the importance of immunohistochemistry in identifying pituitary cell lineage for biochemical and clinical correlation to enhance our understanding of the pathogenesis of plurihormonal tumour and its outcome.

A23 Macroprolactinoma haemorrhage in pregnancy

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Pituitary apoplexy is a rare cause of headache and visual loss in pregnancy, secondary to haemorrhage or infarction of the pituitary gland. There are limited publications on recommendations for management during pregnancy. We describe a case of macroprolactinoma haemorrhage in pregnancy.

A 27 year old Colombian female presented with a three week history of headache, and left peripheral visual disturbance at 27/40 gestation (G1P0). Her medical history was significant for a macroprolactinoma, managed remotely from Colombia. She conceived on cabergoline 0.5mg three times a week, discontinued once pregnant. Her initial investigations revealed; random cortisol 629 nmol/l, TSH 0.94 mIU/l, T4 10.3 pmol/l, prolactin 10,029 mIU/l, IGF1 307 ug/l FSH <11 IU/l, LH <12 IU/l, Estradiol >18350 pmol/l. Visual fields assessment showed no deficit. The MRI showed 1.5 x 1.5 x 1.7 cm mass with an internal fluid level demonstrating haemorrhage. She was managed conservatively with bromocriptine 2.5mg and hydrocortisone 10mg BD. Subsequently she presented at 32/40 with a two-week history of blurred vision and worsening headache. A repeat MRI head reported interval increased in size of the haemorrhagic mass 2.0 x 1.5x1.5 cm, with mass effect on the optic chiasm. Visual field assessment reported a new left sided deficit. As a result, she underwent emergency pituitary debulking. Her vision returned to normal seven days post procedure and headaches resolved. She underwent an elective C-section at 38/40 gestation; her baby was born without complication. This case highlights the successful management of pituitary apoplexy during pregnancy with surgical intervention.

A24 Case Report of Osteitis Fibrosa Cystica (OFC) in a sixteen year old male with Primary Hyperparathyroidism (PHPT)

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Osteitis Fibrosa Cystica (OFC) is a classical albeit nowadays rare complication of primary hyperparathyroidism (PHPT) in developed countries. OFC is seen in about 1.5 % of patients with PHPT and suggests severe long-standing untreated disease. Characteristic radiological findings include cortical thinning, subperiosteal bone resorption and osteoclastomas (brown tumour). We report the case of a 16-year-old boy who presented with acute onset knee pain on a background of multiple previous low velocity fractures. Initial x-ray revealed a femoral fracture with multiple bone lesions. Subsequent CT and MRI showed multiple bone lesions throughout which were consistent radiologically with brown tumour. He was noted to have severe hypercalcaemia of 4 mmol/l (reference range 2.1-2.5 mmol/l) in the setting of an inappropriately high PTH of 784 pg/ml (reference range 15-65 pg/ml). Ultrasound neck and sestamibi scan showed a solitary 2 cm parathyroid adenoma. He was initially treated with intravenous fluids and bisphosphonates followed by left inferior parathyroidectomy. Histology confirmed a parathyroid adenoma. Calcium levels normalised post parathyroidectomy. Other hormone profiling, including anterior pituitary hormones, plasma metanephrines, IGF-1 and calcitonin were within normal limits. Furthermore, the genetic test for MEN-1 was negative. This case highlights the importance of investigation of secondary causes in young adolescent patients presenting with low velocity fractures and serves as a reminder that classic skeletal involvement (OFC) should not be overlooked.

A25 Case report of Hashimoto Encephalopathy- an encephalopathic dilemma.

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Hashimoto Encephalopathy is a rare form of encephalopathy which occurs due to alteration of brain function secondary to elevated thyroid peroxidase antibodies. It is usually a diagnosis of exclusion and is often not timely diagnosed due to diverse manifestations of encephalopathy. We report the case of a 68 year old lady who presented to Sligo University Hospital with subacute confusion, paucity of speech, agitation and poor oral intake. Physical examination did not unveil any focal neurological deficits. Brain imaging and typical encephalopathy panels were negative. Electroencephalogram (EEG) showed mild slowing of posterior dominant rhythm (7-8.5Hz) with occasional left theta slowing. Symptoms improved with the commencement of high dose methylprednisolone however clinical presentation worsened upon weaning. Further serological investigations yielded high anti-thyroid peroxidase antibodies of 347.05IU/mL (<5.61IU/mL). The improvement of symptoms with steroids together with positive auto-immune antibodies confirmed steroid responsive encephalopathy associated with autoimmune thyroiditis (STREAT) known as Hashimoto's encephalitis (HE). High dose oral prednisolone was started with

very slow tapering and she was later commenced on Rituximab infusions. This regimen resulted in improvement of clinical presentation. HE is a rare entity with very little literature. It can present in a myriad of manifestations some of which include seizures, confusion, psychosis and stroke-like episodes. It is crucial that clinicians consider this differential in their work-up for unexplained encephalopathy due to its excellent response to therapy.

A26 A case of synchronous pheochromocytoma and renal cell carcinoma

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A 57 year old man with a history of hypertension and type 2 diabetes mellitus (HbA1c 80mmol/mol) presented with right sided flank pain and weight loss. He reported a history of intermittent palpitations and headaches. CT with contrast demonstrated a right renal mass and right adrenal mass. MRI adrenal showed a 2.4 cm T2 hyperintense right adrenal lesion that demonstrated a stricture diffusion with no signal dropout on out of phase imaging and a 2cm mass in the upper pole of the right kidney. Biochemical evaluation of the adrenal mass revealed elevated plasma metanephrines, normetanephrine 2640pmol/L(0-1180), metanephrine 2190pmol/L(0-510) and 3-metoxotyramine <100pmol/L(0-180). He was commenced on doxazosin for blood pressure management and diabetes care was optimised in the peri-operative setting. He underwent a robotic right radical nephrectomy and adrenalectomy. Histology confirmed a clear cell renal cell carcinoma (RCC) limited to the kidney and an encapsulated tumour (30mm) in the adrenal gland (PASS score 2). Post-operatively, his plasma metanephrine has normalised. His blood glucose levels have improved (HbA1c 53mmol/mol). There was no family history of RCC, pheochromocytoma or paraganglioma. He subsequently underwent genetic testing which did not identify any genetic mutation. Synchronous pheochromocytoma/paragangliomas and RCCs are rare. In a previous case series 7 patients had synchronous and 5 patients had metachronous tumours and of these, 6 patients were found to have genetic mutations, one of uncertain clinical significance. Our patient may yet have a genetic mutation that has yet to be found and further screening could be considered in the future.

A27 Case report of amiodarone-induced thyrotoxicosis type 2 in the elderly.

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Amiodarone is a class III anti-arrhythmic drug used to treat cardiac dysrhythmias. Albeit a popular drug, its usage can be detrimental in the elderly. One major side effect seen is amiodarone induced thyrotoxicosis(AIT). This can be divided into type 1 (AIT-1) which occurs in patients with hyperthyroidism or type 2 (AIT-2) seen in patients with no previous thyroid abnormalities. We report a case of a 79 year old gentleman who was treated for four years with amiodarone for paroxysmal atrial fibrillation (pAF). He presented to Sligo University Hospital four months post discontinuation with a collapse, acute liver injury and cardiac failure. Thyroid function test unveiled a T₄ of 68.1pmol/L (12-22pmol/L) and TSH of <0.01pmol/L (0.27-4.20pmol/L). He was treated for AIT-2 with prednisolone, carbimazole and propranolol. Despite the above regimen, the patient became symptomatic secondary to his pAF and had to be admitted to the intensive care unit for cardioversion. During his admission, his functional and mental status significantly deteriorated and he was later discharged to long term care. According to the European thyroid association, 15%-20% of patients treated with amiodarone develop AIT. In AIT, establishing euthyroidism is important as underlying cardiac arrhythmias can be exacerbated as seen in our case. Total thyroidectomy is the standard for rapid achievement of euthyroidism however elderly patients are unlikely candidates. AIT is a frequent dilemma posed to physicians. Careful consideration is warranted upon amiodarone's usage in the elderly as it affects patient's morbidity and can cause a huge impact on mental and functional status.

A28 Case Report: Acetazolamide for the management of polyuria in a patient with lithium induced nephrogenic diabetes insipidus (Li-NDI).

Kelleher A, Moloney N, Danish H, Gokul J, Hannon MJ.

A 68 year old lady was admitted with a three day history of lethargy and cough. She had a background of bipolar affective disorder managed with lithium, COPD, and CKD stage 3. Her admission diagnoses were a lower respiratory tract infection and an acute kidney injury (AKI). On day three her condition deteriorated. Repeat labs showed new hypernatraemia (Na+ 159mmol/L), with urinary sodium 26mmol/l and urine osmolality 260mmol/kg, with new polyuria (7.5L/day), consistent with Li-NDI. However, GCS <8 prohibited oral intake and placement of a nasogastric tube (NGT) was not initially possible due to patient agitation. Intravenous 5% dextrose to match urine output was commenced along with subcutaneous ddAVP. An NGT was then placed which allowed amiloride administration and hydrochlorothiazide was added the day after; ddAVP was stopped. Serum sodium gradually corrected over the next five days. Despite this correction, urine output still exceeded 6L/day. Acetazolamide 250mcg twice daily was added given evidence from animal studies and a handful of case reports showing benefit in Li-NDI. Urine output fell significantly over the coming days and could be matched with free fluid via NGT by day 21 of admission. This benefit is thought to be due to a tubular glomerular feedback response caused by inhibition of carbonic anhydrase in the proximal tubule along with reduced aquaporin-2 expression¹.

1. de Groot T, Sinke AP, Kortenoeven ML, Alsady M, Baumgarten R, Devuyst O, Loffing J, Wetzels JF, Deen PM. Acetazolamide attenuates lithium-induced nephrogenic diabetes insipidus. *J Am Soc Nephrol.* 2016; 27(7), 2082–2091. <https://doi.org/10.1681/ASN.2015070796>

A29 A Case Series: Women with gonadotropin resistance syndrome or primary hypogonadism without reduced ovarian reserve.

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Gonadotropin Resistance Syndrome (GRS) is rare and is usually due to a Follicle Stimulating Hormone receptor (FSHR) mutation. To date there are up to 20 reported FSHR variants associated with varying clinical presentations of GRS, but it is generally characterised by amenorrhoea, high gonadotropins and normal/high Anti-Mullerian Hormone (AMH).

We describe four 46XX women with amenorrhoea, normal breast development, elevated gonadotropins, low-normal oestradiol and normal-high AMH (Table1) consistent with GRS. Patient 2 had further genetic assessment and two new FSHR variants, of unclear significance, have been identified. In order to establish the significance of these variants her parents have undertaken genetic assessment. FSHR analysis is underway for the remaining 3 patients.

Patient	Amenorrhoea	Biochemistry	AMH	Ultrasound
1. 20 years old	Primary	FSH 32, LH 44, Oestradiol 168, Androgens normal	44.9 Repeat range 39 to 45	Normal uterus “Large dense ovaries” No antral follicles
2. 16 years old	Primary	FSH 32, LH 29, oestradiol 110, Androgens normal	46 Repeat range 46 to 59	“Normal” uterus “Normal” ovaries
3. 29 years old	Secondary	FSH 76 LH 54	44	Verbal “normal”

		Oestradiol 132 Androgens normal	Repeat range 16 to 22	
4. 27 years old	Secondary	FSH 36, LH 19, Oestradiol 37 Androgens normal	22 Repeat range 15-22	“Normal” uterus, “Small” ovaries 5 to 7 antral follicles

FSH-follicle stimulating hormone mIU/l, LH-luteinising stimulating hormone mIU/l, Oestradiol -pmol/l, AMH -pmol/L
As opposed to GRS, premature ovarian insufficiency (POI) is associated with low/undetectable AMH due to follicular depletion and the diagnostic distinction may be relevant for patients' future fertility as science continues to advance techniques of primordial follicle maturation.

RESEARCH, AUDIT, QUALITY IMPROVEMENT

A30 Identifying Factors that Influence the Time to Onset of Ketosis in Exercise and Nutrition Scenarios

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Ketones are an important alternative energy sources during periods of low glucose availability, like fasting or prolonged exercise. Recent research underscores the potential health benefits of inducing ketosis through carbohydrate restriction. However, variations in resulting ketone levels remain uncertain. Understanding these variations could help to explain variations in response to treatment. We sought to describe physiological ketosis patterns in healthy adults under various nutritional and exercise conditions following a 24-hour fast.

This single-center observational study recruited 4 healthy volunteers who undertook 6 different diet and physical activity scenarios following a 24 hour fast, on separate days. These included, continued fasting, standard breakfast, isocaloric low carbohydrate breakfast, and 30 minutes treadmill exercise at 50,70 or 90% maximal heart rate. Blood beta-hydroxybutyrate (β -OHB) concentrations were measured every 15 minutes over 3 hours using an Abbott® point of care device. All data was analyzed on SPSS statistical software and expressed as mean \pm standard deviation. A two-way repeated-measures ANOVA was used to determine differences in ketone concentrations over time.

There were no statistically significant differences between nutritional or exercise conditions in blood ketone concentrations. Such findings are contrary to our previous observations, as we report no influence of breakfast or exercise conditions on blood ketone concentrations following a 24 hour overnight fast.

A31 Audit on Incidence of Hyponatremia in Prader-Willi Syndrome: A Need for Enhanced Awareness and Evaluation

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Individuals with Prader-Willi syndrome (PWS) may be susceptible to hyponatraemia due to excessive fluid intake, desmopressin, and syndrome of inappropriate antidiuretic hormone (SIADH) caused by psychotropic medications. Despite this, the reported prevalence of hyponatraemia in the largest study to date (n=1326) was just 3%. A detailed analysis of subtype and management of hyponatraemia in this cohort is lacking. This study aimed to assess the prevalence and severity of hyponatremia in our specialized PWS clinic and evaluate the extent of hyponatremia workup in affected individuals. We conducted a retrospective analysis of medical and electronic health records for adults with PWS attending our clinic. 39 adult individuals with PWS were included. Serum sodium was available for 34 patients; 11(32%) experienced at least one episode of hyponatremia, 10 had mild hyponatremia (130-134mmol/L), 4 of whom had repeated episodes of hyponatraemia. One individual had chronic severe hyponatremia (<125mmol/L), nadir serum sodium 119mmol/L, consistent with polydipsia as evident by urinary osmolality of 90mOsm/kg. This case is the only case within our cohort in which measurements of urine sodium and osmolality were conducted, as the patient was an inpatient and hyponatraemia was chronic. This study reveals a higher prevalence of hyponatremia in our adult PWS patient cohort than previously reported in the literature, with over one third of patients experiencing at least one episode of hyponatraemia. We recommend the inclusion of routine serum and urine sodium and urine osmolality measurement, as well as quantification of fluid intake, in follow-up assessments for adult PWS patients.

A32 Assessment of Glycaemic Status in Patients with Acute Coronary Syndromes presenting to an Acute Medical Assessment Unit

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International guidelines advise that patients with Acute Coronary Syndrome (ACS) should have assessment of glycaemic status. The aim of this audit was to analyse the assessment of glycaemic status in patients admitted with ACS via an Acute Medical Assessment Unit (AMAU). The secondary aim was to review the glycaemic control in the acute phase following ACS. Fifty six patient were identified between January 1st 2021 and December 31st 2022 with ACS. Glycaemic status was assessed using HbA1c or plasma glucose. Point-of-care capillary glucose measurements were also recorded, assessing if hyperglycaemia (>11.1mmol/L) and hypoglycaemia(<4mmol/L) were avoided in the first 48hours. Supplemental data included demographics, co-morbidities and glucose-lowering therapies. Glycaemic Status was assessed in 98% of patients. HbA1c was measured in 80 % of patients. Median HbA1c was 62 mmol/mol (IQR 51-84) and 38 mmol/mol (IQR 35-40) in patients with and without diabetes respectively. Amongst patients living with diabetes, 54% maintained blood glucose levels <11.1 mmol/L in first 48-hours. Hypoglycaemia was avoided in all patients in the first 48-hours. There were four (7%) new diagnoses of diabetes. Median LDL was 2.2 mmol/L (IQR 1.1-4.2) in patients living with diabetes. The most commonly prescribed glucose-lowering therapy was metformin (77%) followed by sulphonylurea (31%) and DPPV-IV inhibitors (23%). This audit showed excellent compliance with international recommendations that patients treated for ACS have glycaemic status assessment and avoiding hypoglycaemia.

A33 The prevalence and severity of diabetic retinopathy in HNF1A- and GCK-MODY.

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Maturity onset diabetes of the young (MODY) accounts for 1-2% of all diabetes cases. The most common forms are HNF1A and GCK-MODY. The aim of this study was to establish the prevalence and severity of diabetic retinopathy (DR) in subjects with HNF1A and GCK-MODY in an Irish cohort and correlate with risk factors. Retinal photography on two occasions (n=99) and on 1 occasion (n=30) was collected, DR was classified according to disease severity scale. All subjects were phenotyped. At initial review HNF1A-MODY (n=80), 38 subjects had DR (No retinopathy 42, 53%, background 32, 40%, preproliferative

1 1%, proliferative 5, 6%). At mean follow-up of 6.8 ± 3.3 years (n=61) 23 subjects had DR (No retinopathy 38, 62%, background 21, 34%, preproliferative 1, 2%, proliferative 5, 8%). There was no significant progression of DR (n=61) with comparison of initial and follow-up data (p=0.47). At initial review GCK-MODY (n=49) 17 subjects had DR (No retinopathy 32, 65%, background 17, 35%, preproliferative/proliferative 0). At mean follow-up 5.8 ± 3.13 years (n=38), 13 subjects had DR (No retinopathy 25, 66%, background 13, 34%, preproliferative/proliferative 0). There was no significant progression of DR (n=38) between initial and follow-up screen (p=0.98). Nephropathy, microalbuminuria and duration of diabetes were independent risk factors for proliferative and pre-proliferative DR in the HNF1A group (p=0.01). In conclusion, HNF1A-MODY had 34% background and 7% proliferative or pre-proliferative DR without progression. GCK-MODY had 35% background retinopathy without progression. Nephropathy, microalbuminuria and duration of diabetes were independent risk factors.

A34 “MDT or ‘Making-Do Team’ - Real-Life Experience of a Multidisciplinary Team (MDT) Diabetic Foot Round Without Surgical Input in a Tertiary Hospital”

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Diabetic Foot Disease (DFD) is a common complication of diabetes associated with significant morbidity and mortality. Optimal management of DFD requires input from a multidisciplinary foot team¹. This study describes the experience of an inpatient DFD Round in a tertiary hospital, without direct input from surgical specialists. We captured data from the DFD Round in our hospital over a 3-month period. This weekly inpatient round is attended by Endocrinology and Infectious Diseases specialists, podiatrists, and specialist nurses in diabetes and tissue viability. No surgical staff currently attend this DFD Round. Over the study period, 37 inpatients were reviewed, with a total of 53 patient contacts. 33 (89%) had known peripheral neuropathy. 13 (35%) had a prior history of amputation and 30 (81%) of ulceration. 27 (73%) had active infection. Mean duration of inpatient stay was 20 days. 4 (11%) patients underwent amputation; another 2 patients (5%) were planned for amputation at the time of study end, though further MDT discussion was awaited. 25 (68%) patients were treated with antibiotics without surgical intervention and discharged. The relatively low number of amputations in the cohort may reflect the fact that the DFD round is primarily providing expertise in medical management. It is possible that amputations were successfully avoided as a result. It is equally possible that there were some delays in necessary surgery due to lack of timely surgical input. We conclude that it is possible to provide a valuable inpatient consultation service to DFD patients without immediate access to surgical input.

A35 Diabetes at the front door: A Service evaluation of a recently established in-reach service.

Kathryn Robinson, Rebecca Lafferty, Bernadette McNabb, Jayna Smyth, Amy Jones, William Munday, Philip Zecevic, Paula McGurk, Paul McMullan

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In Northern Ireland, the primary focus has been on reforming urgent and emergency care services to enhance patient outcomes and streamline healthcare delivery. A pivotal component of this reform initiative is the "No More Silos" strategic framework. This involves the creation of specialty hubs that offer in-reach services to emergency departments, thereby expediting access to speciality opinions and facilitating timely discharge of patients admitted with diabetes-related conditions. Daily specialty triage assessments are conducted as part of the acute medical intake process to target patients within 24 hours of admission. These assessments encompass various admission reasons, including primary diabetes-related concerns (such as diabetic ketoacidosis and foot infections), sepsis, steroid therapy, acute kidney injuries, and patients on insulin. Data analysis revealed that, on average, 55 medical admissions underwent triage daily, with approximately 15% of these cases involving diabetes. Based on our triage criteria, further examination over the last three months indicated triage numbers of 62, 69, and 48 for June, July, and August, respectively. Among these, roughly one-third presented with infections, another third had primary diabetes-related reasons for admission, and a final third had steroid hyperglycaemia. A third of these patients were on insulin therapy. This new service has successfully focused on identifying and prioritizing patients in urgent need of specialty team review upon arrival to hospital. The next phase of our evaluation will centre on assessing the impact of these interventions on reducing hospital bed days, with the ultimate goal of optimizing patient care and resource allocation within our healthcare system.

A36 User feedback on recently established diabetes rapid access services

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As a key component of healthcare reform in Northern Ireland, ensuring that patients receive timely, appropriate care, by the most suitable healthcare team is paramount. Traditional diabetes appointments often fall short in addressing urgent cases, leading to unnecessary emergency department visits and subsequent admissions. In 2022, a rapid access diabetes service was established within the South Eastern Health and Social Care Trust, offering a direct referral pathway for general practice and emergency departments. Agreed criteria for referral encompassed acute new symptomatic hyperglycaemia without significant ketosis, acute severe hypoglycaemia, diabetic foot emergencies, recent inpatient admissions, steroid-induced hyperglycaemia and elective surgeries with HbA1c >64 mmol/mol. A hallmark of this service was active engagement with service users, with feedback actively sought. Since January 2022, over 120 service users have contributed feedback; 64% aged under sixty and 66% male. The primary reasons for attendance included new type one diabetes diagnoses (52%); initiation of insulin therapy for type two diabetes (17%); recent hospital admissions (12%); diabetic foot infections (13%); and steroid-induced hyperglycaemia (<1%). User feedback has been overwhelmingly positive, with 97% rating the service as excellent in tailoring care, 94% praising its focus on what matters to them and an impressive 88% reporting significant improvements in self-management. The multidisciplinary approach was highly valued from 95% of users, and 100% stated they would recommend the service. This feedback highlights the pivotal role of a rapid access service in ensuring patients are promptly directed to the most appropriate healthcare providers, fostering timely and tailored care delivery.

A37 An Audit of the Characteristics, Investigation, Management and Outcomes of Patients with Hyponatremia Presenting to an Irish Tertiary Hospital.

Aoife Courtney, Lok Yi Joyce Tan, Ali Elsheikh, Faye O'Donovan, Iman Faez Bin Mohd Sori, Rachel Riegel, Tara O'Sullivan, Antoinette Tuthill, Oratile Kgosalialwa.

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Hyponatremia is the most common electrolyte abnormality in clinical practice and is associated with increased in-hospital mortality and length of stay (LOS). The aims of this audit were to evaluate the prevalence of hyponatraemia in medical patients (surgical, dialysis and oncology patients excluded) admitted through the emergency department; the compliance with consensus guidelines regarding the evaluation and management of hyponatraemia and mortality and LOS in this cohort. This retrospective review included 486 patient episodes of hyponatraemia (plasma Sodium [pNa] <135mmol/L) over a two-month period. The prevalence of hyponatraemia was 32.5%. The median age was 78 years (range 84), 239 (49.0%) were female, median nadir pNa was 132mmol/L (range 29). Eighty-seven (17.9%) and 48 (9.9%) had moderate (pNa 125-129mmol/L) and severe (pNa <125mmol/L) hyponatraemia. The most common cause of hyponatraemia was hypovolaemia (n=30, 22.2%).

The mean LOS 15.0 days (± 22.5), 19.3 (± 21.7) and 21.2 (± 45.5) (p=.208) in moderate and severe hyponatraemia respectively. LOS and nadir pNa were found to be negatively correlated (r(484)=-.14, p=.002). Overall inpatient mortality was 7.0% (n=34). Urine biochemistry was obtained in fewer than half of the episodes. In cases of moderate and severe hyponatraemia 53 (39.3%) had an aetiology documented. Ninety-one (67.4%) had active treatment of hyponatraemia and 33 (24.4%) had input from a specialist service. Patients with severe hyponatraemia admitted to hospital are at increased morbidity and mortality. Ongoing multidisciplinary care and treatment pathways are needed to improve patient outcomes.

A38 An audit of young patients with type 1 diabetes mellitus attending an adult outpatient clinic

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The 2018 HSE National Clinical Guideline for adults with type 1 diabetes mellitus (T1DM) recommends a target HbA1c of ≤ 48 mmol/mol. It is advised that HbA1c levels be monitored every 3–6 months and that access is provided to ≥ 2 consultations with a diabetes healthcare provider per year. Data was collected on patients aged < 21 years with T1DM who attended the adult T1DM outpatient clinic in a level 3 hospital over a 6-month period. There were 7 clinics between October 2022 and April 2023 with 18 patients meeting the criteria for inclusion in the study. Mean age was 18.9 years and 55.6% were male. Mean HbA1c level at the clinic visit was 73.3 mmol/mol. All patients had ≥ 2 clinic attendances and 41.2% had ≥ 2 HbA1c measurements in the last year. 77.8% had evidence of attending retinal screening and 100% had input from the diabetes clinical nurse specialist. 77.8% were using glucose sensors, 44.4% had an insulin pump, and 35.7% were using a hybrid closed-loop system. In conclusion, glycaemic control is sub-optimal in this young adult T1DM patient population. Use of diabetes technology such as glucose sensors and insulin pumps is relatively high. Despite regular review and high use of technology, glycaemic control is falling below the recommended levels. We need to better understand why we are not achieving targets. Better education for patients with T1DM, including education on the use of diabetes technology, is warranted.

A39 Dyslipidaemia management in patients with diabetes and chronic kidney disease within a model 3 hospital.
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Patients with diabetes and chronic kidney disease (CKD) are at high risk of cardiovascular disease. ADA/KDIGO guidelines (2022) recommend all patients with diabetes and CKD be prescribed a statin. This study aimed to provide an insight into management of dyslipidaemia in patients with diabetes and CKD within a model 3 hospital. A sample of patients attending the nephrology OPD in PUH were identified for review. Staging of CKD and albuminuria classification, and likely primary aetiology of disease was recorded. Presence or absence of several risk factors were recorded and used to calculate patients' estimated 10-year risk of ASCVD, per American College of Cardiology formula. Statin use, specific agent and dose was recorded where available. Records of 74 patients were reviewed. 50 patients had a diagnosis of CKD and proceeded for inclusion. 68% were female. Mean age was 68 years. CKD 3aA1 was the most frequently identified stage of disease (28%) and renovascular disease was the most prevalent primary aetiology (28%). 36% had a diagnosis of type 1 or type 2 diabetes. 83.3% of those diagnosed with diabetes were prescribed a statin. Median 10-year risk for ASCVD among total sample was 29.6% (IQR: 14%-53.2%). Patients with diabetes and CKD attending our service are at high risk of ASCVD. Though better than rates demonstrated in recent large-scale studies, pharmacological lipid-lowering therapy was under-prescribed in those meeting criteria for treatment. Cost-effective interventions are available for the prevention and management of dyslipidaemia. Strategies should be considered to improve prescription rates to reduce cardiovascular risk.

A40 Effects of 24-hour fasting on blood ketone concentrations

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Emerging scientific research suggests that physiological ketosis may play an important role in human health. A better understanding of the factors that influence plasma ketone concentrations is required. We sought to describe the changes in beta-hydroxybutyrate (β -OHB) in healthy individuals during a 24-hour fast.

Four healthy participants (2=female; aged 26 ± 6 years) were recruited from University of Galway, and consent was obtained. Capillary ketone concentrations were measured using a GlucoMen Areo 2K finger-prick ketone measuring device. Participants measured ketone concentrations from a finger-prick sample and recorded readings after a standardised breakfast at 8am (0-hour) and at 4, 8, 12 and 24-hour time points. Each participant completed six 24-hour fasts. Data was analysed using Prism statistical software and expressed as mean \pm standard deviation. A two-way repeated-measures ANOVA was used to determine differences in ketone concentrations during the 24-hour period.

A significant increase in fasting ketone concentrations was only observed after 12 hours of fasting (0.47 ± 0.06 vs 0.87 ± 0.06 mmol/L, $p < 0.001$) for all participants and persisted until 24 hours (1.15 ± 0.19 mmol/L $p < 0.001$). We observed an 84% increase in fasting ketones at 12 hours with a 145% increase observed at 24 hours.

We have shown that fasting in healthy volunteers is associated with changes in ketone concentrations that are measurable by a point of care ketone monitor. Additionally, there is substantial variation in the range of ketone concentrations observed over the 24 hour period.

A41 Pituitary disease in MEN1: follow up of patients in Northern Ireland (NI)

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Consensus guidelines for MEN1 recommend intensive clinical, biochemical and radiological surveillance commencing in early childhood. The current regimen for pituitary screening includes annual prolactin/IGF-1 and MRI pituitary 3-5 yearly. The aim is to assess current practice for detection and follow up of pituitary abnormalities in our MEN1 cohort.

A single-centre retrospective analysis of MEN1 patients registered to the new dedicated clinic was performed to assess compliance with recommendations and review MRI findings.

Twenty-three patients (M:F, 1:1.56; Age 44(20-69) years) were included. All had initial MRI pituitary 1-10 (median 2.5) years following diagnosis. Where normal, timeliness of subsequent MRI was satisfactory in just three patients. 39% had pituitary adenoma. Six patients had microadenomas followed for 4-30 years (mean 12 years); none progressed. Two microprolactinomas responded well biochemically and radiologically to dopamine agonist (DA). Two patients with normal pituitary on first screening showed microadenoma at 2 year follow up (non-functioning, non-progressive). Three patients had macroadenoma; one macroprolactinoma with good response to DA for 30 years then proceeded to surgery when tumour progressed, necrosed and compromised vision. Two non-functioning macroadenomas had surgery, one with recurrence/radiotherapy at 7 years. Three patients had hyperprolactinemia with normal MRI.

This review based on a small cohort of NI MEN1 patients shows pituitary adenomas in 39%, similar to other reports. Microadenomas showed no progression suggesting need for less vigorous follow up. Macroadenomas seemed to take a more aggressive course with further analyses required. These and improving compliance with consensus guidelines are in progress during set-up of a MEN1-dedicated service.

A42 A retrospective audit of the usage of continuous glucose and flash glucose monitoring in people with type 1 diabetes

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People living with type 1 diabetes (T1D) increasingly use either continuous (CGM – Dexcom or Medtronic Guardian Link [GL]) or flash glucose monitoring (FGM, FreeStyle Libre). We reviewed usage of this technology in our T1D population. Data were obtained over a 90-day period between January and July 2023 from Dexcom Clarity, LibreView, and CareLink. Results were analysed using SPSS27 with ANOVA to determine differences between groups. Data were obtained on 344 patients of whom 239 (69%) were using Dexcom G6 or 7 (active 89% of the time), 78 (23%) were using Freestyle Libre (72% active), and 27 (8%) were using GL (83% active). GL was part of a hybrid closed loop system as was Dexcom for 30 people using t-slim pumps. Mean \pm standard deviation glucose (mmol/L) was lower for those using GL (9.4 ± 3.1) than in users of Dexcom (10.5 ± 3.8 mmol/L) and Libre (10.6 ± 4.0 , $p < 0.05$). The glucose management index (mmol/mol) was lower with GL (53.7 ± 4.6) compared to Dexcom (61.9 ± 9.7) and Libre (62.6 ± 10.6 , $p < 0.001$). The mean time in range was greatest for patients using GL ($70.2 \pm 11.9\%$) compared with $50.2 \pm 17.9\%$ and $48.7 \pm 20.1\%$ for Dexcom and Libre respectively ($p < 0.001$). Mean time in very low was $< 1\%$ in each group while time very high was lower in GL patients (6.6%) compared to those using Dexcom (21.1%) and Libre (22.2%). We conclude that with CGM or FGM, usage is high but many patients are not meeting glycaemic targets. Indices of glycemia are better in those using GL confirming the benefits of a hybrid closed loop system.

A43 Limitations of pre-operative localisation studies in patients with MEN 1; a retrospective audit

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MEN1 is an autosomal dominant inheritance of endocrine tumour predisposition, caused by a germline mutation in *MEN1*; primary hyperparathyroidism (PHPT) is often the first and commonest clinical manifestation.

The aim of this audit was to review the correlation between imaging, surgical findings and histology in patients with *MEN1* undergoing parathyroid surgery. We performed a retrospective analysis of data collected from laboratory, radiological and surgical reports.

Nineteen patients were included, 14 female, age 26-74 years. Fifteen had proven germline *MEN1* mutations, the remaining four were clinical diagnoses. All had PHPT, while six patients (33%) had all three cardinal manifestations of *MEN1*.

Twelve patients (63%) underwent parathyroidectomy; two had single gland excision and ten had multi-gland resection (2x 2 glands, 1x 2.5 glands, 2x 3 glands, 3x 3 ½ glands, 2x total plus thymus). Sestamibi/CT parathyroid correlated with surgical findings and histology in two patients; one single adenoma (patient with clinical, not genetic diagnosis of *MEN1*) and the other four gland disease. In the majority of cases (n=6), sestamibi/CT demonstrated single gland disease, but multiglandular disease was confirmed on surgical exploration and histology. Two patients had ectopic thymic parathyroid tissue confirmed histologically; neither was identified on sestamibi pre-operatively.

Five patients developed permanent hypoparathyroidism (persistent hypocalcaemia 12months post-operatively), of which all of these patients had multi-gland resection.

Our data demonstrate that the typical pre-operative localisation studies utilised in sporadic PHPT are not as helpful in *MEN1*. A comprehensive exploratory procedure performed by experienced ENT surgeons is key in this patient cohort.

A44 Comparison of ultrasound and technetium sestamibi scintigraphy for pre-operative localization of enlarged parathyroid glands in primary hyperparathyroidism.

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Ultrasound and sestamibi scintigraphy are commonly used in pre-operative planning prior to surgery for primary hyperparathyroidism.

We reviewed all patients who had a parathyroid adenoma surgically removed in 2022 in SVUH and compared the intraoperative localization to the pre-operative Ultrasound and Sestamibi results.

22 patients with histologically confirmed parathyroid adenoma were included.

Ultrasound failed to identify glands in 3 (14%) patients and Sestamibi in 6 (27%) patients. Analysing the pre-operative detected side only (left or right) the Positive Predictive Value (PPV) for Ultrasound was 94.73% and for Sestamibi was 100%. When considering side only (left or right) the sensitivity for Ultrasound was 85.71% and Sestamibi was 77.27%. Analysing each gland's precise location PPV for Ultrasound was 81% and Sestamibi was 80%. Sensitivity for Ultrasound was 45% and Sestamibi was 35%. However, the exact location was only identified in 11 (50%) ultrasound reports and 10 (45.45%) Sestamibi reports. Concordance between Ultrasound and Sestamibi when considering side only (left or right) was 63.63% (14). Concordance between the two imaging modalities when looking at each gland's precise location was 36.36% (8).

Overall, this audit shows that in our institution both Sestamibi and Ultrasound have similar PPV in detecting both side and specific location of an affected gland, and our figures are in line with the most recently published Zahn et al study¹.

1. Iwen KA, Kußmann J, Fendrich V, Lindner K, Zahn A. Accuracy of Parathyroid Adenoma Localization by Preoperative Ultrasound and Sestamibi in 1089 Patients with Primary Hyperparathyroidism. World J Surg. doi: 10.1007/s00268-022-06593-y

A45 Implementation of an autoantibody panel for testing patients with suspected type 1 diabetes in a tertiary hospital

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Type 1 diabetes is a condition caused by autoimmune damage of the insulin-producing β -cells of pancreatic islets leading to endogenous insulin deficiency. Type 1 diabetes accounts for approximately 5-10% of all cases of diabetes. The American Diabetes Association (ADA) and European Association for the Study of Diabetes (EASD) guidelines state that an assessment of islet autoantibodies is recommended as the primary investigation of an adult with suspected type 1 diabetes. Glutamic acid decarboxylase antibody (GAD65) should be the primary antibody measured, followed by islet tyrosine phosphatase 2 (IA2) and zinc transporter 8 (ZnT8). An audit of islet autoantibody testing at Galway University Hospital (GUH) identified that 40.47% of patients who tested negative for GAD65 did not have any further antibody testing. A quality improvement project was undertaken to implement an islet autoantibody panel whereby all patients with suspected type 1 diabetes would be tested for GAD65, IA2 and ZnT8. Relevant stakeholders were educated, and posters were circulated to outline how to request testing. By requesting "Diabetes Antibody Panel", the patient would automatically be tested for GAD65, IA2 and ZnT8. An interim re-audit identified that approximately 70% of patients with suspected type 1 diabetes had all three islet autoantibodies tested. At present only GAD65 is tested in-house at GUH while requests for IA2 and ZnT8 are sent to the UK. The QI project expanded to establish in-house testing of IA2 and ZnT8. Inter laboratory comparison has been carried out on 26 samples. Further comparison of samples is awaited prior to implementation.

A46 Assessing Vitamin D level and appropriateness of treatment in an inpatient cohort in Connolly Hospital Blanchardstown

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Vitamin D has multiple roles in the body and, therefore supplementation in high risk population is recommended. We aim to raise awareness for improved screening and treatment in high risk vitamin D deficient patients. We retrospectively reviewed 35 consecutive inpatient charts during March-April 2023. Average age was 75yo, 40% (14/35) were males. The following risk factors were identified: nursing home residents (5%); age over 50 years (50%), poor mobility (40%), chronic steroid exposure (15%), alcohol excess (12%), poor oral intake (11%), chronic kidney disease (9%), anticonvulsant use (3%), obesity (3%). Number of risk factors (RF), per patient, in terms of frequency was: one RF in eight patients, two RF in fifteen patients, three RF in seven patients, four RF in four patients and five RF in one patient. 22 patients (63%) had vitamin D checked during the inpatient stay. Vitamin D levels were less than 12.5nmol/L (severe deficiency) in 4 (18%), between 12.5-29nmol/L (moderate deficiency) in 5 (23%), 30-49 nmol/L (mild deficiency) in 2(9%) and above 50 nmol/L (adequate level) in 11 (50%). 10 (45%) of these were on inappropriate or no replacement. Symptoms included muscle aches (6%) and general decline (26%). 13/35(37%) with risk factors were not checked for vitamin D levels. Conclusively, in 65% of total patients we did meet the recommended criteria for vitamin D assessment and treatment.

A47 An Audit of Insulin Prescribing Practices in University Hospital Limerick (UHL)

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A specialized kardex dedicated solely to insulin prescribing was implemented in 2022. Prior to this, insulin was prescribed in the main drug kardex. An audit of insulin prescribing practices was completed before and after implementation of the insulin kardex. The insulin kardexes of 23 random patients on pre-selected wards were reviewed and data was compiled on glucose documentation, insulin prescribing and administration. Data collection was conducted in the afternoon to facilitate insulin prescribing by teams. Insulin prescribing data was then compared with pre-intervention audit data. Multiple daily injection

regimens represented 64% of prescriptions in both audits. 91% of patients had insulin prescribed for the current day, similar to 94% in the initial audit. 70% of patients had insulin prescribed for the following morning, representing a doubling compared to initial audit. 96% of patients were prescribed a correction scale, compared to 53% using the previous drug kardex. Correction scale was administered as prescribed in only 74% of cases compared to 100% in the initial audit. Completion of the prefilled hypoglycaemia prescription was low in the new kardex at 28%. 95% of pre-meal glucose levels were recorded in the re-audit, an improvement from 76% with the previous kardex. Implementation of a dedicated insulin kardex resulted in improved prescribing of regular and correction scale insulin. Despite observing improved glucose documentation in the new kardex, the appropriate administration of correction scale was sub-optimal. Continued education of those administering insulin using the new kardex is required to optimise adherence to the prescribed correction scale.

A48 An Audit of the Adherence of Long-acting Insulin Administration during DKA in SVUH

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Diabetic ketoacidosis (DKA) is an acute metabolic complication of type 1 diabetes mellitus, with a 5% mortality rate. It is a biochemical triad of ketonaemia, hyperglycaemia, and acidaemia. A DKA is 'cleared' once the clinical and biochemical parameters have normalised. Strict adherence to the DKA protocol is imperative to minimise morbidities.

The aim was to provide a snapshot of adherence to the DKA protocol (based on the Joint British Diabetes Societies guidelines in DKA). The timing of long acting insulin was then compared to results from previous audits in 2015, 2019, and 2020.

We conducted a retrospective audit of the admitted patients who were treated using the DKA protocol between 01/04/22-30/06/22 identified using HIPE coding.

72% of patients were given basal insulin within the first 6 hours of DKA management, 22% between 6 and 24 hours, and 6% >24 hours. 84% of patients cleared the DKA within 0-24 hours, and 17% lasted >24hours. No DKA assessed as part of this cohort lasted longer than 48 hours. Of the 17% lasting over 24hours, 100% had received LA insulin <6 hours after initiation of the protocol.

The findings indicated that the timing of long-acting insulin administration has much improved since 2015. This may be attributed to the implementation of a new local DKA protocol in 2019 which clearly prompts the administration of LA insulin. The stagnant numbers since 2019 highlight that there is room to further optimise the management of DKA and improve patient outcomes. Interval education may be beneficial.

A49 Charcot Foot in Connolly Hospital - the Connolly Hospital Foot Protection Team Experience

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Charcot foot is a destructive neuro-arthopathy that can lead to severe disability and amputation. We aimed to review the characteristics, treatments, and outcomes for patients with Charcot foot attending the Connolly Hospital multidisciplinary foot protection team.

A retrospective review of 12 consecutive patient charts attending clinic with Charcot foot was performed; clinical and demographic details were retrieved. Seven (58%) patients had type 2 diabetes. Mean (\pm SD) age was 62 (\pm 5) years, 6 were male. Half of patients were not in active employment. Mean BMI was 33kg/m² (\pm 5). Half of patients had diabetic retinopathy, 67% had chronic kidney disease based on elevated creatinine levels, 92% hypertension.

Charcot foot was diagnosed after an average duration of diabetes of 7.5(\pm 3) years. 25% of subjects had developed bilateral disease by the time of review. 5 patients (42%) had an associated foot ulcer at diagnosis and 6 (50%) had co-existing osteomyelitis on imaging. Out of the 12 patients, one lost follow up after transferring to another hospital, 11 responded to the acute treatment with offloading, requiring a median of 110 podiatry reviews. One patient's Charcot foot relapsed and remains active at the time of review. No patient required a foot amputation, and 3 underwent reconstructive surgery.

In conclusion, people with Charcot foot attending the foot protection team at Connolly Hospital are complex with many co-morbidities and require intensive podiatry and medical care. Treatment outcomes are good, however, with no patient requiring amputation and the majority having responded well to treatment.

A50 Vitamin B₁₂ screening amongst Type 2 diabetic patients treated with metformin: audit from a diabetic foot outpatient service.

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Metformin is a first line pharmacological therapy for patients with Type 2 diabetes mellitus (T2DM). Its usage is associated with vitamin B₁₂ deficiency and worsening of symptoms of peripheral neuropathy (PN). There exists a high prevalence of PN in patients attending specialised diabetic foot services. Annual screening for vitamin B₁₂ deficiency is suggested for patients on metformin for more than 4 years. Vitamin B₁₂ screening and replacement in patients with T2DM on metformin in Galway University Hospital (GUH) was evaluated. This retrospective study was approved by the GUH audit committee. It consisted of 49 patients who attended complex foot and podiatry led foot clinics at GUH from January to March 2023. Data on patient demographics, patients with T2DM, PN and Diabetic Charcot Neuro-arthropathy were identified using the DIAMOND database. Vitamin B₁₂ levels were obtained from EVOLVE and WebLab electronic health records. The American Diabetes Association Standards of Care in Diabetes 2023 guidelines were applied. Results showed high prevalence of PN(82%). 59% of patients were on metformin. Only 69% of these patients had vitamin B₁₂ assessed within the previous year and 10% had no documentation of levels. 34.5% of patients taking metformin had low vitamin B₁₂ levels (< 193 pg/mL). 20% of the cohort, who were taking metformin, had co-existent vitamin B₁₂ deficiency and PN. Only 6% of patients received vitamin B₁₂ replacement. Findings of this audit suggests a need for more awareness of metformin-induced vitamin B₁₂ deficiency as increased screening and replacement may contribute to reduced diabetic foot disease.