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The 2 winning posters were published in the December issue, the following are the remaining posters that were presented

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Abstract ID: 3954

DKA or Not DKA – Severe Metabolic Acidosis with Ketosis and Hyperglycaemia in Non-Diabetic Patients

Hafiz A Javed, Thomas Kelly, Arooj Zulfiqar, Proma Orchi, James Krzowski, Amna Zeeshan, Jayamalee Jayaweera
West Suffolk Hospital, Bury St Edmunds

Alcohol- or starvation-induced ketosis with raised lactate can present with stress hyperglycaemia, mimicking diabetic ketoacidosis (DKA) even in patients without diabetes. This creates a diagnostic challenge and uncertainty regarding optimal fluid and insulin therapy, as guidance for such cases is limited.

We describe two chronic alcohol-dependent patients with no diabetes history who presented with vomiting and abdominal pain. Both had severe metabolic acidosis (pH < 7.2, bicarbonate < 15 mmol/L), elevated lactate, marked ketonemia (> 6 mmol/L), and hyperglycaemia (> 20 mmol/L), fulfilling biochemical DKA criteria. HbA1c levels were normal; one had prior alcohol-related pancreatitis.

Hyperglycaemia was attributed to stress, and the acidosis to combined alcohol- and starvation-related ketosis with lactic acidosis. Instead of standard fixed-rate insulin infusion, patients received a variable-rate insulin infusion with aggressive fluid resuscitation, plus alcohol withdrawal management with thiamine. Monitoring followed DKA protocols. Hyperglycaemia resolved within 8 hours, and both ketonemia and acidosis improved within 12 hours. Mildly raised amylase was noted, but CT excluded acute pancreatitis.

Pathophysiology likely involves alcohol-induced hepatic metabolic shifts, counter-regulatory hormone surges, and starvation ketosis. Stress hyperglycaemia may result from acute illness, while lactate elevation may reflect both metabolic effects of alcohol and hypoperfusion. Type 3c diabetes from chronic alcohol-related pancreatitis should also be considered.

Early recognition of this phenomenon and appropriate management with variable rate insulin infusion and fluids along with acute alcohol withdrawal treatment will avoid unnecessary initiation of DKA protocol. Further research is needed in this area.

Abstract ID: 3953

Gestational Diabetes Mellitus Masquerading as Type 1 Diabetes: Two Case Reports Highlighting Autoantibody Screening and the Postpartum Honeymoon Phase

Muhammed Russal Latheef, Anna Brackenridge
Guy's and St Thomas' NHS Foundation Trust

Gestational diabetes mellitus (GDM) may mask underlying autoimmune diabetes, necessitating timely antibody testing to guide management. We present two cases initially diagnosed as GDM later reclassified as type 1 diabetes mellitus (T1DM). Case 1: A 20-year-old with GDM at 24 weeks gestation (OGTT: fasting 13.4, 2-hour 24.4 mmol/L; HbA1c 60 mmol/mol) tested positive for glutamic acid decarboxylase (GAD), IA2, and zinc transporter 8 (ZnT8) antibodies, confirming T1DM. Postpartum, she discontinued insulin with sustained euglycemia but remains at high relapse risk. Case 2: A 39-year-old with early hyperglycaemia (17-week OGTT: fasting 12, 2-hour 18 mmol/L) demonstrated isolated IA2 antibody elevation (32.3 IU/mL) despite normal GAD/ZnT8 antibodies. Insulin was discontinued postpartum but resumed at 4 months due to persistent hyperglycaemia. Both cases illustrate transient postpartum insulin independence ("honeymoon phase") despite robust autoimmune markers, underscoring the need for long-term monitoring. Case 2 highlights that isolated IA2 positivity—rarely seen in type 2 diabetes—can signal autoimmune aetiology. Current guidelines lack consensus on universal antibody testing in GDM; however, these cases support testing in those with early/severe hyperglycaemia, ketosis, or rapid insulin requirement escalation. Clinicians should maintain high suspicion for T1DM in GDM patients with atypical features, as timely diagnosis impacts management and reduces complications. These findings align with recent studies showing >80% of antibody-positive GDM patients progress to insulin dependence within 1 year postpartum. Early identification of autoimmune diabetes in pregnancy enables patient education, appropriate therapy, and vigilant follow-up.

Keywords: Gestational diabetes, type 1 diabetes, autoantibodies, IA2 antibodies, postpartum honeymoon phase.

Abstract ID: 3952

Atypical acute presentations of myxoedema coma

Rosa F McMillan, Russell Drummond, Jen Rollo
Glasgow Royal Infirmary, NHS Greater Glasgow and Clyde

Hypothyroidism is common but myxoedema coma is rare. It has a high mortality rate even after early diagnosis and treatment. We present two cases of myxoedema coma, admitted within one week as medical emergencies to the Glasgow Royal Infirmary.

Case 1. A 36-year-old fireman with no past medical history presented with collapse and loss of consciousness during a haircut. ECG showed a sinus bradycardia of 33 beats per minute and inferolateral T-wave inversion. Peak troponin was 3010 (normal<16ng/L), T4<5 (9.0-21.0pmol/L), TSH 95 (0.35-5 mU/L). His score in the myxoedema coma scoring system1 was 60, consistent with myxoedema coma. He was managed in the coronary care unit with intravenous corticosteroid, liothyronine and levothyroxine, and he recovered.

Case 2. A 32-year-old woman with a history of agoraphobia, morbid obesity and hypothyroidism, on replacement levothyroxine, presented with reduced conscious level, vomiting, abdominal pain and constipation. She had oedema to mid-thigh, right pleural effusion, pericardial effusion and atrial flutter with 2:1 block. Serum lactate was 8 (0.6-2.4mmol/L) and hepatocellular enzymes were raised. TSH on admission was 67, suggesting non-adherence to her prescribed levothyroxine. Her score in the myxoedema coma scoring system was 110, consistent with myxoedema coma. She was managed in the intensive care unit with intravenous corticosteroid, liothyronine and levothyroxine, but she died two weeks later of intractable right heart failure.

These cases of a rare endocrine emergency highlight the need to consider myxoedema coma in patients with acute multisystem presentations, with or without known thyroid disease.

Abstract ID: 3951

Clinical Outcomes in Young People with Type 2 Diabetes Mellitus

Naveen Murugadas; Emma Wilmot; Kyaw Linn Su Khin
University of Nottingham; University Hospitals of Derby and Burton NHS Foundation Trust

Background: Early onset Type 2 Diabetes Mellitus (T2DM) is a growing problem in the UK, mostly affecting individuals from a lower socioeconomic background, ethnic minority group, with a strong family history of diabetes and associated with obesity. Early onset T2DM is more aggressive than adult onset T2DM with a higher prevalence of complications.

Aims: To identify the demographics and provision of care in individuals with T2DM in the Young Adults Diabetes clinic at University Hospitals of Derby and Burton.

Methods: Retrospective Data collection from electronic health records for those <35 years were extracted and included information about demographics, care processes, current treatments and complications. Comparison between those ≤25 years (n=37) and those 26-35 years (n=160) was made for complications. A descriptive analysis using Excel was performed while independent t tests and Chi squared tests were performed to compare between the two age groups.

Results: One hundred and ninety seven people with T2DM were identified 29.9 years (±4.5 years), 70.1 % female, 30.4% from black or minority ethnic background. 44.8% of the cohort were in the most deprived quintile. 96.4% were overweight or obese, and median HbA1c was 61 mmol/mol (±1.9mmol/mol); 36.2% achieved HbA1c <53mmol/mol. Half (44.7%) had diabetes autoantibody testing, and 40.1% had a C-peptide measured since diagnosis. Care process completion was low: lipid profile testing in 74.1%, urine ACR testing in 47.2% and serum creatinine in 77.2% of the cohort. One quarter (26.4%) were prescribed SGLT-2 inhibitors, 17.3% GLP-1 analogues and 4.1% tirzepatide.

Conclusion: This cohort is a high-risk group with the typical demographics described in previous research. Based on our audit, the outcomes are suboptimal and completion of diagnostic tests and care processes low. Targeted care to support and improve the outcomes in this cohort are much needed.

Abstract ID: 3948

The digital divide - index of multiple deprivation and inequalities in access to Type 1 Diabetes Mellitus technology in Adults

Apichaya Amrapala, Hema Lata Veerasamy, Alexander Bartram, Andrew Solomon
Pilot project as part of ABCD Diabetes Dragon's Den Grant Award 2024
London Northwest University Healthcare NHS Trust

Background: Continuous glucose monitoring (CGM), insulin pumps and hybrid closed loop (HCL) technologies have revolutionised Type 1 Diabetes care, leading to reduced hypoglycaemic events, improved HbA1c and quality of life(1). NICE technology appraisal has made CGM available on the National Health Service (NHS) and insulin pumps and HCL are recommended for adults meeting criteria(2-3). Whilst the NHS highlights the need for equitable access to this technology(4), healthcare inequalities affect its adoption(5).

Aims: To review current T1DM technology adoption by patients in our trust (secondary care) and healthcare inequalities affecting technology adoption.

Methods: Retrospective, cross-sectional observational study of pilot data collected as part of a health inequality project on adult T1DM patients referred to London North West University Healthcare NHS Trust between 2021 – 2024. Data on age, gender, ethnicity, English fluency, mental health, cognitive impairment and index of multiple deprivation (IMD) were collected from patients' electronic health records, in addition to secondary care clinic attendance, date and type of technology adoption and HbA1c results before and after technology. Data was analysed with logistic regression analysis and Wilcox-signed rank test ($p<0.05$ significance) on Microsoft Excel and SciPy software.

Results: Of 162 patient records reviewed, 15.4% (n=25) did not adopt technology, 64.2% (n=104) adopted CGM only and 20.4% (n=33) adopted pump/HCL. Logistic regression analysis demonstrated higher adoption of CGM (OR 9.58, $p< 0.05$) and pump/HCL (OR 35.97, $p<0.05$) in patients with regular secondary care clinic attendance. Higher IMD deciles (lower levels of deprivation) significantly increased the likelihood of individuals adopting a pump/HCL (OR 1.41, p=0.013). There was a tendency for patients fluent in English to be more likely prescribed CGM or pump/HCL but this did not reach statistical significance (OR 1.65, 95% CI 0.55-4.98, p=0.37). Age, ethnicity and gender did not appear to have significant impact on T1DM technology access. Patients in the most deprived decile had a significantly higher pre-technology median HbA1c (93.5mmol/mol) than the least deprived (68mmol/mol). HbA1c improved post introduction of technology, regardless of IMD, with a median HbA1c reduction of 5mmol/mol with CGM ($w=624$, $p<0.05$) and 10mmol/mol with pump/HCL ($w=3$, $p<0.05$).

Conclusion: T1DM technology improves glycaemic control but uptake remains suboptimal among individuals from areas of high deprivation and those unengaged with secondary care. Implementation of the NHS inclusive digital healthcare framework(6) is essential and particular focus and further research on this digital divide and these patient groups is urgently required to ensure equitable access and address unmet health needs.

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Abstract ID: 3947

Identification and Management of Steroid-Induced Hyperglycaemia and Diabetes in Gastroenterology Wards at Glasgow Royal Infirmary

Kiserah Philip, Hazel Murray, Andrea Llano

Glasgow Royal Infirmary, 84 Castle Street, Glasgow, G4 0SF

Background/Aim: Steroids are frequently used in the management of gastroenterological conditions. Steroid-induced hyperglycaemia (SIH) and steroid-induced diabetes are complications of steroid therapy with an estimated incidence of 32% and 19% respectively. The Joint British Diabetes Society (JBDS) provides guidance on the frequency of capillary blood glucose (CBG) monitoring, diagnostic thresholds and management strategies in patients receiving steroids. This audit aimed to evaluate adherence to these guidelines within Gastroenterology wards at Glasgow Royal Infirmary.

Method: A two-cycle retrospective audit was conducted using the Plan–Do–Study–Act model. Case notes of patients discharged between December 2024 and February 2025 (Cycle 1), and May to July 2025 (Cycle 2), were reviewed. Inclusion criteria included steroid therapy equivalent to ≥5 mg prednisolone for > 24 hours. Patients with adrenal insufficiency or on inhaled steroids were excluded. Data collected included steroid indication, risk factors, HbA1c testing, CBG monitoring frequency, escalation plans, patient education and discharge planning.

Results: In Cycle 1 (n = 34), only 18% of patients had their CBG monitored in accordance with JBDS guidance. Two SIH cases were identified and neither managed appropriately. Following multidisciplinary education and implementation of electronic prescribing alerts, Cycle 2 (n=41) showed improved management: 36% had appropriate CBG monitoring and all high-risk patients had HbA1c checked. 73% of compliant monitoring was prompted by electronic alerts. SIH incidence was 20%, but escalation remained suboptimal. There was no formal discharge planning or patient education.

Conclusion: Targeted education and electronic prescribing prompts improved screening compliance, but escalation and discharge planning remain inadequate. Further interventions, including automated CBG alerts and formal discharge protocols, are recommended to optimise patient safety.

Abstract ID: 3946

Metabolic syndrome and risk of bilateral and severe pulmonary embolism: a single centre experience

Sumaya Huque, Vikram Shee, Islam T Ahmed, Botond Kaholics, Aran Aziz, Ramazan Younes, Natalia Tomasova, Nicholas Cron, Jenny Bacon, Julian Emmanuel

East Surrey Hospital, Surrey and Sussex Healthcare NHS Trusts

Introduction: Recent studies support an association between metabolic syndrome and venous thromboembolism (VTE). Metabolic syndrome is a cluster of risk factors for atherosclerosis, comprising abdominal obesity, hypertension, insulin resistance and metabolic-dyslipidaemia; high triglycerides and low HDL (high density lipoprotein cholesterol). Venous thromboembolism may be the first symptomatic event in patients with risk factors for metabolic syndrome, and at risk of subsequent cardiovascular disease. There may be an opportunity to investigate patients presenting to hospital with pulmonary embolism (PE) for components of metabolic syndrome, and initiate lifestyle measures, pharmacotherapy to modify risk profile for subsequent events.

Methods: We conducted a retrospective review of patients presenting to East Surrey Hospital between 2016 and 2021 with pulmonary embolism. A list of patients was obtained from PE clinic attendance.

Aim: Investigate association between metabolic syndrome and severe PE.

Our primary outcome was bilateral and unilateral PE. Our secondary outcome was PE severity using European Society of Cardiology Classification. The following data was collected: age, sex, ethnicity, weight, height, diabetes status, hypertension and blood tests: HBA1c and Lipid profile. Metabolic syndrome was defined by presence of three or more of the following risk factors: BMI ^{3} 30, known hypertension, known diabetes or HbA1c^{3} 48 mmol/mol, triglyceride level ^{3}1.7 mmol/L, HDL <1mmol/L in male, and HDL<1.3 mmol/L in female.

The statistical analysis was conducted on STATA, and univariate and multivariate logistic regression utilised to calculate odds ratios.

Results: We analysed 316 patients, comprising 164 males (52%) and 152 females (48%). The average age was 62.9 years (standard deviation 15.8; range 20-99 years). Seventy six percent of patients were Caucasian. We analysed proportion of patients with components of metabolic syndrome and correlated it to risk of PE severity. 54 patients (17%) met criteria for metabolic syndrome: 117 (37%) patients had no feature of metabolic syndrome, 94 (29.8%) had one feature, 51 (16.1%) two features, 40 (12.7%) three features, and 14 (4.4%) had four or five features.

There were 211 patients (66.7%) with radiological diagnosis of bilateral PE, and 105 patients (33.2%) with unilateral PE. 152 (48.1%) patients had low and intermediate-low risk PE, 66 (20.9%) patients

had high/ intermediate-high risk PE, European Society of Cardiology. Owing to missing data, 98 patients (31%) were not classified.

There was a higher incidence of high-risk PE in patients with metabolic syndrome - 41%, compared to an incidence of 28% in patients without metabolic syndrome. After adjusting for age, sex and ethnicity, the odds of having high risk PE was 1.82 times higher in patients meeting criteria for metabolic syndrome, compared to patients who did not (OR 1.82; 95% CI 0.86-3.84, p value 0.12). The odds ratio for bilateral PE in metabolic syndrome was 1.07 (OR 1.07, 95% CI 0.57-2.04, p-value 0.82).

As the number of features of metabolic syndrome accumulated the risk of bilateral PE and severe PE increased. 22% of patients with no feature of metabolic syndrome had a high-risk PE, but this increased substantially to 32% in patients with 1 feature, 34% with 2 features and 40% with 3 or more features. The addition of a feature of metabolic syndrome, increased the risk of severe PE by 24% (OR 1.24, 95% CI 0.98-1.58, p value 0.08). We carried out sensitivity analysis, omitting provoked PE, and observed similar associations.

Conclusions: Our review noted a possible association between metabolic syndrome and high-risk PE; the number of features of metabolic syndrome suggest correlation with risk of bilateral, severe PE. Patients presenting with severe/ bilateral PE should be assessed for metabolic syndrome, risk modified, to prevent further VTE and cardiovascular events.

Our study has several limitations. It is a retrospective study, and missing data for patients. We used bilateral PE as a surrogate for severe PE, not all patients had echocardiogram/ troponin measurement, at time of admission. Statistical analysis did not reach significance.

Our results do suggest that patients admitted to hospital with severe PE, evidenced by high clot burden, high PESI score (pulmonary embolism severity index), right heart strain, elevated troponin and haemodynamic instability, may benefit from investigations to identify modifiable cardiovascular risk factors, including HbA1c, lipid profile and anthropometric measures: weight, height and abdominal circumference.

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Abstract ID: 3945

A departmental audit of lipid management for cardiovascular risk reduction among patients with type 1 diabetes measured against current NICE guidelines

Despoina Tseke[1], Kavitha Lakshmipathy[1], Younes R Younes[1], Ella Tumelty[1], Timea Varga[1], Stewart Tomlinson[1,2], Vidhu Nayyar[1], Julian Emmanuel[1], Sunil Zachariah[1], James Clark[1], Benjamin CT Field[1,3]

1. Department of Diabetes and Endocrinology, Surrey and Sussex Healthcare NHS Trust; 2. Medwyn Surgery, Dorking; 3. Faculty of Health and Medical Sciences, University of Surrey, Guildford

To audit departmental practice in cardiovascular risk reduction in people with type 1 diabetes against NICE NG238 (2023) guideline recommendations, we conducted a retrospective analysis of cardiovascular risk factors and statin prescribing in our patients with type 1 diabetes. We excluded women aged <40 years and those planning pregnancy or currently pregnant. Data collected included demographic, clinical and laboratory measures. We also recorded current lipid-lowering prescriptions and, for patients not on a statin, whether statins were offered and initiated. We compared characteristics by statin use and, in those not on statins, by whether treatment was offered or not.

Data for 90 (38 female, 52 male) patients were extracted, with equal representation among different clinicians' lists. Ethnicity was recorded as 75.6% White, 2.2% Asian and 22.2% Other or Not Stated. Mean(SD) age was 52(15) years and mean(SD) age at diagnosis 25(21) years. Mean(SD) HbA1c was 63(16) mmol/mol.

58 (64.4%) patients were using a statin at time of clinic review, most commonly atorvastatin, and three were statin intolerant. Among the remaining 29, only seven were offered statin therapy, of whom four accepted. Mean age, body mass index, and the prevalence of comorbidities were greater, and total cholesterol concentrations lower, in people on statins compared to those not on statins. There was marked inter-clinician variability in likelihood of offering statins to those not using them, but no demographic or clinical factors predicted this likelihood. Increased education and awareness are needed to improve cardiovascular outcomes, in patients with type 1 diabetes.

Abstract ID: 3943

Mapping Inequality in T1DM technology - A temporal analysis of sociodemographic determinants and Continuous Glucose Monitoring (CGM)

Hema Lata Veerasamy, Apichaya Amrapala, Alexander Bartram, Andrew Solomon

London North West University Healthcare NHS Trust

Pilot project as part of ABCD Dragon's Den Grant Award 2024

Background: CGM has made significant advancements in recent years. Diabetes technology adoption amongst adults with Type 1 Diabetes Mellitus (T1DM) is influenced by sociodemographic factors.(1) Evidence suggests early adoption of CGM results in decreased HbA1c and reduced rates of hypoglycaemia.(2-3) CGM Time in range (TIR) is an indicator of microvascular

complications.(4) CGM is available on the National Health Service (NHS) for individuals with T1DM.(5) We examine the association between sociodemographic factors and the timeline of CGM adoption in adults with T1DM.

Material & Methods: A retrospective observational study of pilot data collected as part of a health inequality project in London Northwest University Healthcare NHS Trust (LNWH). Electronic Medical Records (EMR) of 162 patients were reviewed. Inclusion criteria: individuals with T1DM, age 18 years and above; referred to or under LNWH secondary care follow-up. Age, gender, ethnicity, presence of serious mental illness (SMI) and learning disability (LD), index of multiple deprivation (IMD) decile (representing aspects of deprivation across 7 domains(6)) and English fluency were reviewed. Patients without CGM and unrecorded device start dates were excluded from device adoption timeline analysis (n:91). CGM adoption cohorts were divided into two timelines; 2015-2019 (early) and 2020-2025 (late). Chi-square test and Man-Whitney U test were applied to analyse differences over time between ethnicity and IMD deciles respectively.

Results: The mean age was 43.9 years, 65% (n:106) were male and 35% (n:56) were female. 46.9% (n:76) identified as Caucasian/White and 53.1% (n:84) comprised of Black, Asian, Minority Ethnic (BAME). 21% (n:35) had SMI or LD and 17.9% (n:29) were unable to communicate effectively in English, requiring translators. Ethnicity-based analysis indicated higher proportion of Caucasian individuals adopted CGM earlier (33%), however, no temporal difference was observed over time, attributable to sample size. (Chi-square p=0.3209). Analysis revealed individuals from higher IMD deciles (indicating less deprived backgrounds) adopted CGM earlier (U = 1281.0, p = 0.0484). Post-CGM adoption, the early cohort demonstrated significantly lower mean HbA1c levels compared to the late adopters (58 mmol/mol vs. 67 mmol/mol, respectively).

Conclusion: Comparison of CGM adoption timelines highlights that individuals with T1DM from more deprived areas tend to adopt diabetes technology later. Improved glycaemic control was observed with earlier CGM adoption, advocating the need for prompt initiation.(7) Technology advancements need to account for social determinants and focus on individualised approaches in highly deprived areas.(8) Robust data collection is needed to establish region-specific barriers and reduce inequalities to technology access.

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Abstract ID: 3942

The Capacity of Healthcare Facilities to Diagnose Diabetes and Hypertension in Sub-Saharan Africa: A Systematic Review and Meta-Analysis

Ikechukwu Roland Chukwudi, MBBS, MRCP UK, Omotayo Olusola, MBBS, MS, MSc, MRCP UK, Anuoluwapo Makinde, MBBS, Olamide Oladipupo, MBBS, MRCP UK, Chika Ukachukwu, MBBS, Chukwuma Austin Chukwu, MBBS, MRCP UK, PhD

1 Liverpool University Hospitals NHS Trust; 2 Surrey and Sussex Healthcare NHS Trust; 3 University College Hospital, Ibadan, Nigeria; 4 Norfolk and Norwich University Hospitals Foundation Trust; 5 Emel Hospital, Festac Town, Lagos, Nigeria

Keywords: cardiovascular disease, diabetes, hypertension, diagnostic capacity, sub-Saharan Africa, health systems

Background: Cardiovascular diseases (CVDs) are the leading cause of non-communicable disease deaths globally, with sub-Saharan Africa bearing a disproportionate burden (1). Limited diagnostic capacity for hypertension and diabetes—two major CVD risk factors—undermines efforts to address this epidemic. We systematically reviewed the availability of basic diagnostic tools in health facilities across sub-Saharan Africa.

Methods: We searched PubMed and Embase (January 2014–September 2024) for observational studies reporting availability of functional sphygmomanometers and glucometers in sub-Saharan African health facilities. Two reviewers independently screened studies and extracted data. Random-effects meta-analysis estimated pooled prevalence of functional devices. Study quality was assessed using the Joanna Briggs Institute tool. PROSPERO: CRD42024617252.

Results: Of 4,423 articles, 35 studies met inclusion criteria, representing 12 countries and 15,469 facilities. Pooled prevalence of functional sphygmomanometers was 88% (95% CI 83–93%), while glucometer availability was markedly lower at 58% (95% CI 45–71%). Heterogeneity was substantial (I^2 >98%), reflecting genuine variability across settings. Overall, 94% of studies were moderate-to-high quality. Sensitivity analyses demonstrated robust findings. Glucometer availability was particularly low in rural and lower-tier facilities.

Interpretation: While hypertension diagnostic tools are widely available, over 40% of facilities lack functional glucometers, representing a critical barrier to diabetes detection and CVD risk management. These findings provide the first comprehensive regional baseline for diagnostic capacity and highlight urgent need for targeted investment in diabetes diagnostic infrastructure, sustainable supply chains, and workforce development to curb the escalating CVD burden in sub-Saharan Africa.

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Abstract ID: 4006

Potassium matters : Enhancing Compliance with Trust Guidelines for the diagnosis , management and treatment of hypokalaemia

Dr Mehreen Anwar, Dr Syed Shahiq Ali, Dr Bhupender Singh, Dr Aung Myint, Dr Babar Riaz, Dr Lekshmy Pillai, Dr Ezzeldin Barakat, Dr Maham Majid, Dr Syarafina Zahidi, Dr Mohammad Atif Sarwar, Dr Muhammad Athar Khan, Dr Hariz Aziz
Nottingham University Hospital

This two-cycle audit assessed compliance with Nottingham University Hospitals Trust guidelines for hypokalaemia management in adult general ward inpatients. Both cycles excluded critical care, haematology, DKA, HSS, and refeeding syndrome cases. Hypokalaemia was defined as mild (3.0–3.5 mmol/L), moderate (2.5–2.9 mmol/L), and severe (<2.5 mmol/L).

First audit: Among 27 medical and 26 surgical patients, no severe cases were recorded. Magnesium was checked in 63% of medical and 77% of surgical patients. All moderate/severe cases in medical wards had ECGs versus 44% in surgical wards. Blood gases were performed in 75% (medical) and 55% (surgical). All potassium doses were within safe limits (<3 mmol/kg/24 hrs). Some mild cases received unnecessary IV replacement. Potassium recheck rates exceeded 92%.

Re-audit: Patient numbers were unchanged, but distribution included severe hypokalaemia (medical: 3; surgical: 1). Magnesium checks slightly improved in medical wards (66.7%) but decreased in surgical wards (34.6%). ECG compliance for moderate/severe cases remained 100% in medical wards and improved to 60% in surgical wards. Notably, IV potassium replacement practice improved — in medical wards, 15 patients received IV therapy (including appropriate use in severe and ECG-positive moderate cases), and in surgical wards, IV replacement was used correctly for the single severe case. Monitoring compliance for oral therapy dropped in surgical wards (50%).

Across both cycles, safe dosing was consistently achieved. The re-audit demonstrated improved appropriateness of IV potassium replacement, but ongoing gaps in magnesium testing, ECG use, and repeat potassium checks highlight the need for targeted staff education and reinforcement of guidelines.

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Abstract ID: 3938

Unsteady Ground: Acute Bilateral Cerebellar Haemorrhages in Type 2 Diabetes

Dr Andrew Gerges, Dr Asmaul Husna, Dr Suresha Muniyappa
Doncaster and Bassetlaw teaching hospitals NHS trust

Introduction: In the UK, approximately 4.6 million people have a confirmed diagnosis of diabetes, with an estimated 1.3 million more living with undiagnosed type 2 diabetes. Microvascular and macrovascular complications place a substantial burden on healthcare systems. Notably, 20–33% of patients with acute stroke are diabetic. We present a rare case of acute bilateral cerebellar haemorrhages in a patient with type 2 diabetes.

Case Report: A 78-year-old woman with a history of type 2 diabetes, rheumatoid arthritis, osteoarthritis, and chronic kidney disease presented with diarrhoea, vomiting, acute confusion, unsteadiness, and urinary incontinence. She was previously fully independent, including driving and caring for her husband. Her diabetes regimen included Novomix 30 twice daily and metformin.

On examination, the only neurological finding was new gait disturbance causing unsteadiness. Admission blood glucose was markedly elevated with ketosis but without acidosis. HbA1c values over the preceding six months ranged from 66–110 mmol/mol. Initial CT head was unremarkable. She was managed for delirium secondary to gastroenteritis; however, persistent confusion and unsteadiness prompted brain MRI, which revealed bilateral cerebellar lesions consistent with acute haemorrhagic infarcts. Post-contrast MRI showed heterogeneous enhancement, and CT angiography was normal. She was reviewed by the stroke team, her diabetes management was optimised, but she elected to continue her twice-daily insulin. She was discharged with therapy follow-up.

Conclusion: Diabetes mellitus substantially increases stroke risk as a macrovascular complication. This unusual presentation highlights the importance of vigilant neurological assessment and maintaining optimal glycaemic control to mitigate cardiovascular and cerebrovascular risks.

Abstract ID: 3936

Experience of Diabetes Education & Support when caring for children diagnosed with Type 1 Diabetes: a qualitative study from the Republic of Ireland.

Catherine Showler, Anil Dhiri.
iHeed Medical Education, University of Warwick.

This study explores the lived experiences of parents of children diagnosed with type 1 diabetes (T1D) in the Republic of Ireland (hereafter referred to as Ireland), with a focus on the accessibility, structure, and perceived effectiveness of diabetes self-management education and support (DSMES). Although DSMES is recognised globally as a critical component of paediatric diabetes care, (1-3) national data in Ireland remain sparse and inconsistent.(4-6)

Using a phenomenological qualitative design, twelve parents participated in semi-structured interviews conducted via Zoom. A reflexive thematic analysis was employed to explore how parents experienced DSMES at and since diagnosis.

Findings revealed significant variation in educational delivery across care settings, with three overarching themes: (1) Fragmented and Reactive Education at Diagnosis; (2) Parental Self-Education and Peer Learning Networks; and (3) Calls for Compassionate, Individualised, and Ongoing Support. Participants frequently described initial education as poorly timed, emotionally overwhelming, and limited in scope, necessitating self-directed learning and reliance on online communities. The disparity in education quality between tertiary and regional hospitals, alongside minimal structured follow-up, highlighted systemic inequities.

These findings underscore the urgent need for standardised, trauma-informed, and stage-appropriate DSMES across Ireland. Integration of lived experience, digital platforms, and psychosocial support are recommended to improve caregiver confidence and child health outcomes.

The study contributes important insights to the literature on paediatric diabetes education, advocating for collaborative, responsive, and equitable DSMES delivery. Recommendations for future research include national audits of DSMES, co-designed interventions, and longitudinal studies evaluating caregiver and child outcomes.

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Abstract ID: 3933

Improved fertility following metformin use in type 1 diabetes with insulin resistance features: lessons from a case of recurrent pregnancy loss

Madiha Mirza[1], Syed Ali Bilal Hassan[2], Sidrah Khan[3]

1. Internal Medicine Trainee, Addenbrooke's Hospital, Cambridge, UK
2. Acute Medicine Registrar, Hinchingbrooke Hospital, Cambridge, UK
3. Consultant in Diabetes and Endocrinology, Hinchingbrooke Hospital, Cambridge, UK

Background: Metformin is sometimes used in people with type 1 diabetes who have insulin resistance or polycystic ovary syndrome (PCOS) features. PCOS occurs in up to 25% of women with type 1 diabetes (1,2). These women face higher risks of subfertility and adverse pregnancy outcomes, yet evidence for targeted fertility interventions is limited. In PCOS, metformin can improve ovulation and may reduce miscarriage risk (3), but its role in type 1 diabetes is unclear.

Case: A woman in her mid-30s with long-standing type 1 diabetes (HbA1c 38–48 mmol/mol) experienced multiple pregnancy losses after both natural conceptions and IVF. Investigations for causes of recurrent pregnancy loss were negative. She had irregular periods, polycystic ovarian morphology, raised BMI, and intermittent reproductive hormone abnormalities.

Metformin MR 500 mg twice daily was started for possible insulin resistance. Hormone levels normalised, and HbA1c improved to 38–42 mmol/mol. She conceived naturally within seven months of metformin initiation.

She was managed in a complex obstetric care clinic with shared diabetes care. Early pregnancy care included aspirin, low molecular weight heparin, and progesterone pessaries. Retinal screening was offered each trimester, and counselling sessions addressed the emotional impact of recurrent pregnancy loss. A hybrid closed-loop insulin pump was initiated at 20 weeks to optimise glucose control.

Pregnancy progressed without major complications, and she delivered a healthy baby at term.

Discussion: This case highlights a potential role for metformin in improving fertility in type 1 diabetes with insulin resistance features. The timing of metformin initiation, hormonal normalisation, and natural conception suggests a possible causal link. The association between recurrent pregnancy loss and mental health burden underscores the importance of integrating psychological support into structured preconception care, which can reduce adverse outcomes and improve patient wellbeing (4,5). Further research should explore metformin's reproductive benefits in this group.

Learning points:
- In type 1 diabetes with insulin-resistance features, pre-conception metformin may be a useful adjunct.
- PCOS is more common in women with type 1 diabetes than often expected (~25%) (1,2).
- Screen for and support mental health in women with type 1 diabetes and recurrent pregnancy loss; integrate this within preconception care pathways.

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Abstract ID: 3926

When Hyperglycaemia Hits the Brain: A Case of Diabetic Striatopathy

Osman Abdalrazag, Mohamed Idris, Chukwuocha Ikechukwu
Sheffield Teaching Hospitals NHS Trust

Diabetic striatopathy is a rare complication of inadequately controlled diabetes, presented with sudden unilateral chorea or hemiballismus and distinctive neuroimaging changes in the basal ganglia. It is thought to result from chronic hyperglycaemia priming the brain, with acute hyperglycaemia surges triggering symptoms. The hypothesis includes GABA depletion from neuronal energy failure disrupting motor pathways and hyper-viscosity induced striatal microvascular injury(1&2).

A 63-year-old male with long-standing type 2 diabetes, hypertension, and mild cognitive impairment presented with acute-onset choreiform movements of the left upper limb, impairing his work as a delivery driver. Examination revealed purposeless involuntary movements of the left arm, without weakness, or sensory deficit.

Biochemistry showed marked hyperglycaemia (22 mmol/L) with no ketosis, and calculated osmolality of 304 mOsm/kg, with HbA1c of 142 mmol/mol.

CT demonstrated hyper-density in the right basal ganglia, and MRI confirmed T1 hyperintensity and T2 hypointensity in the right putamen and caudate, consistent with diabetic striatopathy.

Glycaemic optimisation was initiated with pre-mixed insulin on top of his usual doses of metformin, and dapagliflozin, alongside discontinuation of alogliptin, without neuroleptics medications. Five days later, Choreiform movements resolved alongside glucose normalisation. He was discharged with CGM sensor and district nurse support for insulin administration.

Two months later, glycaemic control had improved substantially, with HbA1c reduced to 82 mmol/mol, self-administering insulin and under diabetes and neurology teams follow-up.

This case underscores the need for heightened awareness of diabetic striatopathy among diabetologists, as prompt recognition and intensive glycaemic control can lead to rapid neurological recovery.

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Abstract ID: 3924

Diabetes Management in Frail Inpatients for Hypoglycaemia: A Quality Improvement Project

Hein Htet Zaw, Dina Tamang, Warda Mansur, Warin Majid, El Saeed
Royal Berkshire NHS Foundation Trust

Introduction & Objectives: Frailty in older adults with diabetes increases the risk of adverse outcomes from tight glycaemic control, particularly hypoglycaemia, which can lead to significant morbidity and mortality1. Current national (JBDS: Inpatient Care of the Frail Older Adult with Diabetes2) and local (Buckinghamshire, Oxfordshire & Berkshire–BOB3) guidelines recommend tailoring glycaemic targets based on frailty status to improve safety and reduce complications. This quality improvement project aimed to reduce the incidence of Frequent and Significant Hypoglycaemia in Frail Inpatients by a minimum of 50% over 3 months after taking appropriate interventions.

Method: A retrospective quality improvement project was conducted across elderly care wards at Royal Berkshire Hospitals over two audit cycles (PDSA cycles). The initial cycle included 31 inpatients (January- March 2025), and the following cycle recruited 12 patients (May–July 2025), after guideline presentation and staff education. Frailty was assessed by using the Clinical Frailty Scale (CFS), and glucose targets were defined based on CFS, according to the national and local guidelines. The data were collected from DSN (Diabetes Specialist Nurse) inpatient referrals and Datix incident reports. Outcomes analysed frequency & severity of hypoglycaemia, appropriate setting of glycaemic targets, and alignment with medication safety standards.

Results: In comparison of Cycle 1 & 2, the number of frail inpatients with hypoglycaemia reduced from 31 to 12 patients (61% reduction). Those with frequent hypoglycaemia episodes decreased from 24 to 8 patients (67% reduction), and the patient number who had significant hypoglycaemia (CBG ≤3mmol/L) lowered from 18 to 7 patients (61% reduction).

Among severely frail patients (CFS 7–9), documentation of appropriate glycaemic targets improved from 25% (2 out of 8 patients) to 80% (4 out of 5). Nevertheless, in moderately frail patients (CFS 4–6), correct target-setting decreased from 56% (10/18) to 20% (1/5), highlighting variability in the practice.

Medication adjustments such as proactive insulin de-escalation and optimization of OHAs were implemented more consistently in the Cycle 2.

Conclusion: Frail inpatients with diabetes remain risky to hypoglycaemia, particularly when glycaemic targets are not tailored. The introduction of frailty-guided glucose targets and medication review resulted in significant reductions in hypoglycaemia in terms of severity and frequency and improved safety in the frail elderly diabetic cohort. Ongoing staff education, standardisation of care pathways and development of local policies are mandatory to maintain improvements in frail population safety, emphasizing to implement sustainable actions for all levels of diabetic frail inpatient population.

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Abstract ID: 3922

Outcomes from a diabetes clinic for adults <50 years old and BMI ≥35kg/m²: Real-world impact on glycaemia and weight.

Dr Avishka De Silva, Dr Dimitris Papamargaritis, Dr Vijay Ramadoss

1. Department of Diabetes and Endocrinology, Kettering General Hospital
2. Leicester Diabetes Centre, Leicester General Hospital, LE5 4PW

Background: A new clinic was established at Kettering General Hospital to support younger adults with type 2 diabetes and severe obesity. The clinic was developed in line with the 2022 ADA/EASD guidelines, which advocate early intervention targeting both glycaemic control and weight, alongside comprehensive cardiometabolic risk reduction. This audit evaluated the real-world effectiveness of the clinic in improving outcomes related to glycaemia, weight, and treatment burden. The review period includes the period of national shortage of Glucagon-like Peptide-1 (GLP-1) receptor agonists, which posed some challenges to timely and optimal therapy initiation.

Methods: A retrospective audit was conducted for patients referred to clinic between October 2022 and November 2024 (follow-up until April 2025). Eligibility criteria included a diagnosis of type 2 diabetes, age under 50 years, and BMI ≥35 kg/m². Although some individuals with type 1 diabetes were also seen under the same criteria for weight management, this analysis focuses solely on those with type 2 diabetes. Paired t-tests were used to assess changes in HbA1c and weight.

Results: Of the 83 individuals who attended the clinic, 60 had type 2 diabetes. The mean age of the type 2 diabetes population was 37.0 years; 24% were male and 76% were female. Among those with paired data, baseline mean weight (n=50) was 130.2 kg, and mean HbA1c (n=55) was 68.99 mmol/mol; 71% of this group had HbA1c >53 mmol/mol. At referral, 20/60 were using insulin and 43/60 were on two or more glucose-lowering agents.

During follow-up, 55 out of 60 participants received GLP-1 based therapies. One patient underwent gastric bypass surgery. Among those with complete data, mean HbA1c reduced by 11.25 mmol/mol (p<0.001; n=55) and mean weight improved by 8.1 kg (p<0.001; n=50). Of the 20 patients on insulin at baseline, follow-up insulin data were available for 16; among these, 12 reduced their dose and 4 discontinued insulin entirely.

In terms of treatment targets, 42% (23/55) achieved HbA1c <48 mmol/mol, 30% (15/50) achieved ≥10% weight loss, and 16% (8/50) achieved both.

Conclusion: This targeted clinic model led to significant improvements in glycaemic control, weight loss, and insulin burden among younger adults with type 2 diabetes and severe obesity. The widespread use and effectiveness of GLP-1 based therapies in this setting highlight the potential of structured, early intervention in achieving meaningful clinical outcomes. Broader implementation of similar care models -supported by timely access to evidence-based type 2 diabetes and obesity treatments- may be critical to improving long-term health in this high-risk population.

Abstract ID: 3918

Direct admission from Diabetic Foot Clinic enhances adherence to diabetic foot infection guidelines: A retrospective cohort study

T Feather[1], L Appleyard[2]

1. Pharmacy, Royal Derby Hospital, University Hospitals of Derby and Burton
2. Endocrinology, Royal Derby Hospital, University Hospitals of Derby and Burton

Introduction: Acute diabetic foot complications are among the leading causes of hospital admissions in the UK and are associated with prolonged hospital stays. Early access to diagnostic sampling, imaging, and specialist multidisciplinary care is crucial to support patient flow and optimise outcomes.

At Royal Derby Hospital, a 'One Stop' multidisciplinary Diabetic Foot Clinic (DFC) operates five days a week, streamlining care for patients with active foot problems. Referrals come primarily from community podiatry teams and General Practice, resulting in 80 to 120 new referrals each month. DFC also empowers concerned patients to request same day appointments, enabling rapid intervention. Patients can be admitted directly to the endocrine ward, bypassing the Emergency Department ensuring expedited specialised care.

Aims: The primary aim was to evaluate whether direct admission from the DFC enhances adherence to foot infection guidelines compared to admissions originating from Medical Assessment Unit (MAU). A secondary aim was to determine whether direct admission reduced the length of inpatient stay.

Methods: A retrospective cohort study was conducted at Royal Derby Hospital, from December 2024 to February 2025. Eligible participants included patients admitted to the endocrine ward with a diagnosis of diabetic foot infection either from MAU or the DFC. Collected data analysed with inferential statistics included: length of hospital stays, time to deep tissue aspirate (DTA) collection, whether DTA samples had positive results, time to request and complete imaging, and whether outpatient parenteral antimicrobial therapy (OPAT) was utilised.

Results: Total patients included in the analysis n=40, 21 direct admissions from the DFC, 19 via the MAU. Admission through the DFC significantly reduced hours to DTA (0.8 vs 138.3, p<0.05), days to X-ray request (1.0 vs 2.9, p<0.05) and X-ray completion (1.5 vs 3.9, p<0.05). Notably, 100% of direct DFC admissions requiring a DTA had it performed within 4 hours. Days to duplex ultrasound (3.5 vs 4.5, p=0.20045) and MRI (5.3 vs 9.5, p=0.20045) were reduced for DFC admissions but below statistical significance. A greater proportion of DFC admissions had growth on DTA (73.7% vs 58.8%, p=0.17361), but below statistical significance. A greater proportion of direct DFC admissions required OPAT post discharge (52.6% vs 29.4%, p= 0.07927). Increased positive microscopy and identification of antimicrobial resistance may account for increased OPAT utilisation. DFC admission significantly reduced length of inpatient stays (13.3 vs 17.5 days, p<0.05). Projected over a year, two DFC admissions per week could save 438 bed days. This could save £175,200, based on a £400 estimated cost per bed day.

Conclusions: The study identified significant improvements in adherence to diabetic foot infection guidelines for direct DFC admissions compared to MAU admissions. DFC admissions resulted in earlier acquirement of DTA, imaging, and higher rates

of positive sample growth. Timely access to results and specialist input likely contributed to the observed reduction in length of hospital stay. This has significant impact on cost, quality of care, and patient experience. Overall, this study has demonstrated the clinical and financial benefit of the DFC model. Moving forward, we will continue to raise awareness of DFC to patients and clinicians to increase its utilisation and optimise outcomes. Future research is needed to look at patient experience and comparative drug spend per admission.

Abstract ID: 3912

Recruitment strategies to increase representation of underserved communities in diabetes research

Sam Hussain & Dr Emma Wilmot
University Hospitals of Derby and Burton NHS Foundation Trust, Derby, UK
University of Nottingham, Nottingham, UK

Aim: Type 2 diabetes is a major UK public health priority. People from South Asian, Black African, and Black Caribbean backgrounds are 2-4 times more likely to develop type 2 diabetes at a younger age. These ethnic minority groups are also disproportionally affected by the burden of diabetes. Extensive literature shows there is a huge disparity in people from minority groups taking part in clinical research.

Our aim was to increase representation of people from underserved communities in diabetes clinical research.

Methods: Clinical Research Network (CRN) East Midland Funding was awarded for: "Targeting underserved communities in research". The calls aim was to identify underserved communities and promote their participation in diabetes research.

Several methods were used to raise awareness including community engagement, social media and collaborations with primary care. Multiple recruitment strategies were used to support participation of people from minority groups. Co-designing and co-creating ideas with diabetes community champions helped facilitate and map out promotional activities.

Results: Work conducted by our inclusion lead who was bilingual at English, Urdu and Punjabi had positive impact on the representation of recruited participants. As a direct result of engagement activities, we saw an increase in participation of underserved groups.

Conclusion: Community engagement can enable locally acceptable methods to increase participation of underserved groups in diabetes research. Raising awareness in one community using tailored approaches can have better outcomes. And having culturally congruent bilingual researchers can have added benefits in research where representation of participants is paramount.

Abstract ID: 3910

Marked improvement in insulin sensitivity with Tirzepatide in Familial Partial Lipodystrophy Type 2

Zafran Ullah, Ruvan Kottegoda, Omar G. Mustafa, Martin B. Whyte
Kings College Hospital , London (Diabetes Department)

Background: Familial partial lipodystrophy type 2 (FPLD-2), caused by heterozygous LMNA mutations, is a rare monogenic disorder associated with insulin resistance, hypertriglyceridaemia, Pancreatitis and fatty liver disease. Treatment options are limited, especially when metreleptin is not tolerated or ineffective. GLP-1/GIP receptor co- agonists like tirzepatide have not previously been reported in this condition.

Case Presentation and Discussion: A 39-year-old woman developed pancreatitis in 2006 and was later diagnosed with FPLD-2 and type 2 diabetes. Pseudo-acromegalic features prompted IGF-1 testing, which was normal. Metreleptin (2014) gave limited benefit and was stopped because of injection burden; SGLT2 inhibitors were poorly tolerated. Despite metformin, pioglitazone and 280 units/day basal–bolus insulin, HbA1c was 102 mmol/mol in January 2024 and 98 mmol/mol in March 2025. Continuous glucose monitoring on 27 February 2025 showed time-in-range (3.9–10 mmol/L) 8 %. Baseline weight was 84.4 kg, and a CT scan performed before tirzepatide initiation demonstrated a normal pancreas.

Tirzepatide 2.5 mg weekly was started on 24 March 2025 and uptitrated to 7.5 mg by week 12. At week 10, HbA1c fell to 65 mmol/mol, time-in-range rose to 86 %, total insulin fell 45 % to 155 units/day, and weight declined to 82.0 kg. No adverse effects were reported.

Conclusion: Previous pancreatitis often deters GLP-1 therapy, yet uncontrolled diabetes and dyslipidaemia themselves perpetuate pancreatitis risk, creating a therapeutic dilemma. In this refractory FPLD-2 case, tirzepatide produced rapid, clinically meaningful improvements in glycaemia, insulin burden and weight. GLP-1/GIP co-agonists warrant further evaluation in FPLD-2.

Abstract ID: 3908

Resident Doctors' Awareness of Diabetes Technology in Clinical Practice

Abdullah Almayahi, Reem Alnajim, Buddhike Mendis
Nottingham University Hospitals NHS Trust

Background: The use of wearable diabetes technology, such as continuous glucose monitoring (CGM), hybrid closed-loop systems, and insulin pumps, has increased over the last few years, especially in the management of type 1 diabetes. Inappropriate management of hospital patients with wearable diabetes devices can lead to serious complications such as hypoglycaemia or hyperglycaemia.

Method: A structured questionnaire was distributed to resident doctors at Nottingham University Hospitals NHS Trust to assess the formal teaching/training received, familiarity with JBDS-IP guidelines, ability to differentiate between different devices and confidence in managing patients using these technologies, in addition to questions about knowledge, perceived barriers, and preferred supporting resources.

Joint British Diabetes Societies for Inpatient Care (JBDS-IP) Group. Using technology to support diabetes care in hospital: A guideline from the Joint British Diabetes Societies for Inpatient Care (JBDS-IP) group and Diabetes Technology Network (DTN). Joint British Diabetes Societies for Inpatient Care (JBDS-IP) Group: 2024.

Results: A total of 75 resident doctors responded. Although 60% had managed inpatients using wearable diabetes technologies, only 5% received formal training. The levels of confidence in the management of inpatients using these technologies were low:

87% were either not at all confident or slightly confident. Additionally, 60% were unable to differentiate between a CGM sensor and an insulin pump, and 99% were unaware of JBDS-IP guidelines. Lack of training, devices unfamiliarity and lack of local protocol were the main barriers that resident doctors encountered.

Conclusion: This audit revealed significant gaps in the awareness, knowledge and training of resident doctors regarding wearable diabetes technologies. We recommend urgent review of the training curriculum to cover these gaps, establishment of local guidelines or adoption of JBDS-IP guidelines and providing other resources for learning, such as online tutorials and e-learning modules. Locally, we will implement a series of updates for resident doctors.

Abstract ID: 3906

Gastroparesis in recurrent diabetic ketoacidosis: diagnostic gap and the role of hybrid closed loop therapy

Nadiia Sidelnyk[1], Raeesa Ijaz[2], Andrew Kernohan[3]
1. Danylo Halytsky Lviv National Medical University, Lviv, Ukraine
2. Diabetes Unit, Queen Elizabeth University Hospital, Glasgow, United Kingdom

Background and aims: Gastroparesis remains an underdiagnosed risk factor for recurrent diabetic ketoacidosis (DKA) in patients with diabetes mellitus. In clinical practice, gastroparesis is rarely detected in the acute episodes, as its symptoms often overlap with the clinical presentation of DKA, while specific assessments are not routinely performed. This study aimed to determine the prevalence of gastroparesis, quantify the diagnostic gap among patients with ≥2 DKA episodes in 2017, evaluate 7-year survival, and identify predictors of mortality in this high-risk population.

Materials and methods: A retrospective cohort study was conducted among 149 adult patients with ≥2 episodes of DKA in 2017 at NHS Greater Glasgow and Clyde. Gastroparesis status was defined as confirmed (based on gastric emptying scintigraphy, food residue on esophagogastroduodenoscopy, or both), excluded, or not assessed. Statistical analysis was performed using the χ^2 test, Mann–Whitney U test, Kruskal–Wallis test, and multivariate logistic regression ($p < 0.05$).

Results: Gastroparesis was confirmed in 31 of 149 patients (20.8%). Only 44 patients (29.5%) underwent diagnostic evaluation, with a detection rate of 70.5% (31/44) among those examined. In contrast, 105 patients (70.5%) were not assessed for gastroparesis, indicating a significant diagnostic gap. Assessment rates for gastroparesis were no better in patients with ≥6 episodes of DKA in 2017, 71.4% (10 out of 14) had never been examined for gastroparesis. During the 7-year follow-up, 13 of 31 patients with confirmed gastroparesis died. None of those who died had access to an insulin pump or a hybrid closed-loop (HCL) system. Among survivors with confirmed gastroparesis, 4 out of 18 (22.2%) used HCL (insulin pumps alone were not used). Among surviving patients with confirmed gastroparesis (n = 18), a significant difference was found in the frequency of hospitalisations in the most recent 12 months according to the type of insulin therapy used. In the group using HCL, the median was 0 hospitalisations (mean 0.5 ± 1.0), while in the MDI group it was 3 (mean 3.1 ± 2.6), corresponding to an over six-fold difference on average. This difference was statistically significant according to the Kruskal–Wallis test ($\chi^2 = 4.44$; $p = 0.035$; $\varepsilon^2 = 0.261$) and remained significant in Dunn's post hoc analysis with Bonferroni correction ($p = 0.035$).

Conclusions: Only one-third of patients received appropriate diagnostic evaluation for gastroparesis. The diagnosis was confirmed in over 70%, which suggests an underestimation of this complication in clinical practice. In addition, among patients with confirmed gastroparesis, the use of hybrid closed-loop (HCL) systems was associated with a lower frequency of hospitalisations, while none of the deceased had access to advanced insulin therapy. Expanding access to HCL systems may be crucial for improving the prognosis in this high-risk population.

Abstract ID: 3904

Long-term survival following diabetic ketoacidosis: a retrospective cohort study

Nadiia Sidelnyk[1], Raeesa Ijaz[2], Andrew Kernohan[3]
1. Danylo Halytsky Lviv National Medical University, Lviv, Ukraine
2. Diabetes Unit, Queen Elizabeth University Hospital, Glasgow, United Kingdom

Background and aims: Diabetic ketoacidosis (DKA) remains one of the most serious, life-threatening diabetic emergencies. A subgroup of patients with recurrent DKA (2 or more episodes in a 12 month period) is associated with significantly increased risk of long-term mortality. The aim of the study was to analyse 7-year survival after recurrent DKA and to identify clinical factors associated with long-term mortality.

Materials and methods: A retrospective cohort study was conducted. The analysis included 149 patients with ≥2 episodes of DKA in 2017 within NHS Greater Glasgow and Clyde. This cohort was identified using discharge codes and laboratory data. Six patients were excluded due to relocation to another health board. Statistical analyses were performed using the χ^2 test, Mann-Whitney U test, linear and multiple linear regression.

Results: During the 7-year follow-up period, 37.6% (n = 56) of patients died, of whom 17.9% died within the first year after the recurrent DKA episode. Older age at the time of DKA was a predictor of increased mortality ($\beta = -0.050$, 95% CI -0.084 to -0.015, $p = 0.005$). No patient aged over 65 years in 2017 survived the follow-up period (n=14). No age group was spared mortality: 4/39 aged 16-25 and 10/34 aged 26-35 died. The insulin therapy regimen was associated with mortality: 81.3% (26/32) people on BD mix died, 27.8% (30/108) in the MDI group died but 0% (0/9) people on pumps or HCL died. Access to the most advanced diabetes technologies (pumps and HCL) was poor in this group despite evidence of engagement: 70% of survivors had been seen at diabetic clinic in the previous 15 months (65/93).

Conclusion: Age at the time of DKA was an independent predictor of reduced survival. The highest mortality rate was observed during the first year, underscoring the need for intensive follow-up during this period. None of the 9 patients who used an insulin pump or a hybrid closed-loop system died, while mortality was dramatically higher in the BD mix group. Limited access to advanced technologies may be one of the key factors contributing to the high mortality rate in the group of patients with recurrent DKA. Expanding access to such technologies is a

potentially effective way to improve long-term clinical outcomes in this high-risk group.

Abstract ID: 3901

The proportion of women with a confirmed diagnosis of Gestational Diabetes on an annual recall system to monitor their HbA1c.

Arooj Siddique, Laraib Siddique
University hospitals Leicester

Objective: To determine the proportion of patients with a confirmed diagnosis of Gestational Diabetes Mellitus (GDM) who were not on an annual recall system to monitor their HbA1c and to add them to the recall system. NICE guidelines state that we should "offer an annual HbA1c test to women with GDM who have a negative postnatal test for diabetes (Nice, 2015)" due to the increased risk of developing Type 2 diabetes mellitus (T2DM) (Ben-Haroush, 2004).

Methods: A retrospective analysis was conducted on a cohort of patients within a General Practice. The total number of female patients with a diagnosis of Gestational Diabetes was found using a SystmOne search. Another search was conducted to exclude the patients with a preexisting diagnosis of either T1DM or T2DM. The patients not on a recall system were found by doing a further search between the patient group above and those in an existing recall system at the practice. For these, a new recall system was created which would send annual text messages to females not already in the recall group with 1) a link to book a blood test 2) information on Gestational Diabetes, and 3) the importance of annual HbA1c reviews.

Results: A total of 62 women were identified to have a diagnosis of GDM. Of these 19% (12) had a preexisting diagnosis of either T1DM or T2DM and were therefore excluded from the Search. Of the remaining patients eligible for annual HbA1c monitoring, 32% (16) were not enrolled in the annual recall system, whilst 68% (34) were already enrolled and annually monitored.

Conclusion: A great proportion of patients with GDM were not included in the annual recall system recommended by NICE guidelines. This highlights a gap in postpartum care for women with GDM, which may have implications for the timely detection and management of persistent glucose intolerance and future diabetes risk in this high risk population.

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Abstract ID: 3900

Preventing Corticosteroid-Related Bone Disease In Inflammatory Bowel Disease (IBD)

Olamide Oladipupo, Henry Olamiju
Norfolk and Norwich University Hospitals

Introduction: Approximately 35–40% of patients with Inflammatory Bowel Disease (IBD) suffer from osteopenia and 15% from osteoporosis, and both Crohn's disease and Ulcerative Colitis patients have increased risk. Risk factors include uncontrolled inflammation, malabsorption, weight loss, prolonged or high-dose oral steroid use or lack of physical activity. The BSG have advocated for patients who have steroid dependent and steroid refractory IBD to be assessed for osteoporosis.

Steroid dependency is generally defined as an inability to wean below 10mg of prednisolone or 3mg of budesonide within 3 months of starting, or disease flare within 3 months of stopping steroids.

Steroid-refractory disease is active disease despite taking up to 1mg/kg/day of prednisolone for 4 weeks. Steroid excess is considered to be two or more courses of steroid over 1 year.

Objectives:

[1] To ensure risk factors are being assessed using FRAX index and ensuring bone mineral densitometry (BMD) are requested as appropriately guided by the BSG guidelines where patients had steroids dependent or refractory disease.

Method:

Sample:

Patients with inflammatory bowel disease (ulcerative colitis and Crohn's disease affecting the colon) who have called the IBD nurse helpline between January and April 2023 and have been prescribed a course of steroids during index call. They are followed up with clinic letters over the next year from index call to assess the number and length of courses of steroids received.

Standards:

[1] Patients with IBD requiring prolonged or multiple courses of steroids should have BMD
Expected percentage: 100%
Exceptions: Patients in whom BMD and treatment of osteoporosis would be inappropriate on account of frailty or terminal illness.

[2] Patients with IBD being prescribed courses of steroids should be assessed for risk of osteoporosis using FRAX index if >40 years
Expected percentage: 100%
Exceptions: Patients in whom BMD and treatment of osteoporosis would be inappropriate on account of frailty or terminal illness.

Results: 48 patients were prescribed a course of steroids, 26 patients had steroid dependent or refractory disease, 7 patients had previous BMD

Before the index visit - 4 on osteoporosis treatment, 2 had normal results, 1 had an abnormal result but was not on treatment.

1 patient had BMD requested by the gastroenterology team

2 patients had BMD requested by another department as they were being co-managed

Total of 3 patients (3/19) 16% of patients who needed BMD (and had no previous BMD) had scans requested

No patients (0%) being prescribed steroids were assessed using the FRAX index

Conclusion: The results should that there remains a very poor awareness of the risk of osteoporosis in IBD. We have therefore:

1. created forms for all patients prescribed steroids that contain FRAX, the number of courses, medications, and the dates and results of previous BMD.
2. Requested or ICE requesting rights for BMD for the IBD nurses as they are often the first port of call of patients
3. Staff education regarding the importance of assessing for osteoporosis in IBD thorough a department presentational at the localIBD governance meeting

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Abstract ID: 3881

First Implementation of Foetal Cell-Free DNA Testing for GCK-MODY in NHS Tayside: A Case Report

Dr Kyaw Naing Htoon, Co-Author, Dr Lee Euan Sit
NHS tayside

Background: Maturity-Onset Diabetes of the Young due to glucokinase mutations (GCK-MODY) presents unique challenges in pregnancy management, as foetal outcomes depend on whether the foetus inherits the maternal mutation. Traditionally, management often involves intensive glycaemic control to reduce risks of foetal overgrowth if the foetus does not carry the mutation. However, if the foetus shares the mutation, such interventions may be unnecessary. Recent advances in non-invasive prenatal testing (NIPT) using foetal cell-free DNA (cfDNA) from maternal blood now allow for early, accurate foetal genotyping, enabling more personalized care.

Case Presentation: We report the first use of foetal cfDNA testing for GCK-MODY in pregnancy management in NHS Tayside. A 26-year-old woman with a confirmed GCK-MODY diagnosis presented at six weeks gestation. Her family history was significant for diabetes, and she maintained stable glycaemic control without medication. Initial laboratory evaluation showed an HbA1c of 38 mmol/mol, negative diabetes autoantibodies except for a mildly elevated anti-GAD antibody, and otherwise unremarkable findings.

Genetic Testing and Management: Given the critical role of foetal genotype in guiding management, we initiated foetal cfDNA testing using a maternal blood sample. The test confirmed that the foetus had inherited the maternal GCK mutation. This result was pivotal, as it allowed us to avoid unnecessary insulin therapy. Both mother and foetus shared the same glucose threshold for insulin secretion, reducing the risk of foetal overgrowth and hypoglycaemia. Management focused on regular monitoring without intensive insulin therapy, and a tailored delivery plan was developed which excluded the need for continuous insulin infusion during labour. Cord blood sampling was arranged at delivery to validate the cfDNA result.

Discussion: This case marks a significant milestone in NHS Tayside diabetes care, showcasing the successful integration of advanced genetic testing into antenatal management. Early, non-invasive determination of foetal genotype enabled personalized care, minimized intervention, and reduced healthcare costs. The experience highlights the potential for broader adoption of cfDNA testing in managing MODY pregnancies and other monogenic conditions, setting a new standard for personalized medicine within NHS Tayside.

Conclusion: The first implementation of foetal cfDNA testing for GCK-MODY in NHS Tayside represents a major advancement in personalized antenatal care. This approach optimized management for our patient and established a framework for future cases. Pending cord blood analysis will further validate this strategy. Our experience serves as a model for integrating genetic testing into pregnancy management, with implications for clinical practice and healthcare policy across NHS Tayside.

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Abstract ID: 3874

Hybrid closed loop therapy at University Hospitals Plymouth in January 2024

Adele Beck, Peter Kelly, Daniel Flanagan
Derriford hospital, University Hospitals Plymouth

In December 2023, NICE published a Technology Appraisal (TA943) for hybrid closed loop (HCL) systems for managing blood glucose levels in type 1 Diabetes (T1D). The guidance recommends HCL as a therapeutic option for supporting adults living with T1D who have an HbA1c of 58mmol/mol or more or have disabling hypoglycaemia despite best possible management with insulin pump therapy and/or real time continuous glucose monitoring. This guidance also applies to people living with T1D (pwT1D) who are pregnant or are planning to become pregnant and children. National access to HCL for people meeting the required criteria will be implemented over a five-year rollout period. Our diabetes department at University Hospitals Plymouth (UHP) provides secondary care for approximatively 3000 pwT1D. By January 2024, UHP had 411 patients on insulin pump therapy, of which 204 (49.6%) patients were recorded to be benefiting from HCL therapy, compared to 15% regional average for Devon and Cornwall. The time in range (TIR)improved from 50 (95% CI, 2-92%) to 63% (95%CI, 24-99%) in all patients on HCL (DANA, TandemT slim, Omnipod), with a reduction in hypoglycaemic events over 14 days from 2 (95%CI 0-6) to 1 (95%CI 0-5) (n=368). In line with the National Diabetes Audit, we are continuously monitoring the treatment outcomes of people moving towards HCL and those remaining on HCL through TIR, number of hypoglycaemic events and HbA1c variation to inform our practice and optimise the quality and safety of care as well as patient satisfaction.

Abstract ID: 3823

Hoarseness, Hormones, and Hidden Malignancy: A Treacherous Path to Ectopic Cushing's Syndrome

Dr Afees Ahamed M Arakkal, Dr Jayakumar Ambigapathy, Dr Srikanth Mada
Department of Diabetes and Endocrinology, University Hospital of North Durham

Background: Ectopic Cushing's syndrome (ECS) is a rare but rapidly progressive endocrine emergency with high morbidity and mortality. Diagnosis is frequently delayed as metabolic

derangements such as hypokalaemia, metabolic alkalosis, and hyperglycaemia often precede classical Cushingoid features (1,2). This case highlights the diagnostic challenge of ECS and reinforces the importance of detailed clinical assessment even in an age of algorithmic, biomarker driven medicine.

Case Presentation: A 65-year-old man was referred to urology for mildly elevated PSA of 4.9 µg/L (reference range: 0 - 4.5 µg/L). MRI prostate unexpectedly demonstrated extensive bony metastases inconsistent with the PSA level, prompting CT neck, thorax, abdomen, and pelvis, which revealed a mediastinal mass with adrenal and skeletal metastases. Retrospective history uncovered over six weeks of on-going fatigue and progressive hoarseness of voice on background of significant smoking history, further ENT review confirmed left vocal cord palsy.

He subsequently presented with fatigue, weight loss, and severe biochemical abnormalities: potassium 2.2 mmol/L (reference range: 3.5-5.3), pH 7.68 (reference range: 7.35-7.45), bicarbonate 48 mmol/L (reference range: 22-29), glucose 18 mmol/L. Baseline cortisol was markedly elevated at 3894 nmol/L (reference range 119-618), with plasma ACTH 178 pg/mL (reference range: 7.2-63.3), consistent with ACTH dependent hypercortisolism. Overnight dexamethasone failed to suppress cortisol. Meanwhile, Endobronchial ultrasound guided transbronchial needle aspiration confirmed small cell carcinoma of the lung (SCLC), establishing the diagnosis of ECS secondary to ACTH secreting pulmonary malignancy.

Management and Outcome: Treatment included aggressive potassium replacement, high dose insulin for hyperglycaemia, and metyrapone 500 mg four times daily with steroid cover. A multidisciplinary approach endocrinology, oncology, palliative care was adopted. Despite partial biochemical control, the patient deteriorated with sepsis and succumbed prior to discharge.

Conclusion: The incidental discovery of metastatic SCLC during prostate cancer work up exemplifies the enduring value of meticulous history and physical examination. Early recognition and targeted management of ECS are vital to mitigate morbidity and improve outcomes in this aggressive endocrine emergency. Additionally, it highlights how a mildly elevated PSA led to the discovery of an advanced malignancy, reinforcing the notion that medicine remains an art where history taking, and examination remain central to timely diagnosis and management.

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Abstract ID: 3944

Improving Postnatal Follow-up for Women with Gestational Diabetes Mellitus (GDM) in the Community and Implementation of the National Diabetes Prevention Programme in a District General Hospital

Dr. Quratulain Tanveer, Dr. Navpreet Chhina, Dr Ammara Naeem
Croydon Health Services NHS Foundation Trust

Background: Gestational diabetes is associated with a significant increased life time risk of developing type 2 diabetes in future. It is also associated with multiple complications in successive pregnancies with increasing morbidity and mortality. At Croydon University Hospital (NHS), we observed a rising prevalence of gestational diabetes mellitus (GDM) among women attending the antenatal clinic. We also identified suboptimal postnatal follow up by GPs and low rate of onward referral to the National Diabetes prevention programme (NDPP) for those diagnosed with GDM.

Aim: To audit follow up of women diagnosed with GDM in Croydon Hospital with GP in community, by doing follow up reviews with fasting blood glucose and HbA1C, 6 and 13 weeks post-natal and implement a structured advised letter to improve follow up service pathway and new service development of National diabetes prevention programme within Hospital to increase referral rates to prevent development of type 2 diabetes in future.

Methods: We retrospectively collected data of all women diagnosed with GDM delivering between May to August 2023. Data were collected from electronic patient records and GP blood test reviews in regards to post-natal glucose testing at 6-13 weeks and NDPP referrals by GP in

Interventions included developing a standardised discharge summary template, educating midwives and obstetric and implementing to establish a direct NDPP referral process in antenatal clinic at Croydon Hospital.

Results: Of 247 women, 55 % of women were at the age range of 30-40 years, 34.41% were aged between 18-30 years and only 4.45% were aged above 40 years in that cohort. Most of the women gave birth in the month of July and August 2023.

56% of GDM patients were only treated with Metformin during their pregnancy, 33.6% were treated with diet only during their pregnancy, whilst only 4.8% were on both insulin and metformin.

During their post-partum follow up with GP at 6 weeks, 49.79 % had their fasting blood glucose carried out. At 13 weeks 33.1% of patients had their Hba1c done for follow up review.

At 6-12 months, only 27.9% of women were reviewed with HbA1c by their GP for post-natal GDM follow up.

Conclusion: Review of the audit results revealed significant gaps in post-natal follow up for women with GDM. The introduction of a structured discharge template is expected to strengthen communication and collaboration with GPs, leading to enhanced adherence to national guidelines. Incorporating a referral pathway to National Diabetes Prevention Programme (NDPP) within the antenatal clinic is expected to further improve community referral rates. Embedding this integrated pathway into routine maternity discharge processes will help sustain these improvements, promote continuity of care, and ultimately reduce long-term risk of type 2 diabetes in this high-risk population.

Discussion: Patients with gestational diabetes mellitus (GDM) face a 70% lifetime risk of developing type 2 diabetes mellitus (T2DM). Recent studies and meta-analyses advocate for proactive postpartum screening, recommending HbA1c as an effective alternative to oral glucose tolerance testing (OGTT), with follow-up extending 1–3 years for these high-risk individuals. A systematic review highlighted insufficient awareness of T2DM risk, often stemming from inadequate patient education.

Our audit addresses these critical gaps by implementing an active screening program, including a straightforward discharge letter with instructions to general practitioners (GPs), alongside hospital-based delivery of the National Diabetes Prevention Programme (NDPP). This approach enhances awareness, promotes cost-effectiveness in resource-limited settings with diverse multicultural populations, and fosters long-term health improvements through lifestyle modifications and pharmacological interventions to prevent T2DM onset.

An assessment of the cost-effectiveness of the NDPP is also vital to determine whether the benefits achieved by the programme represent an efficient use of NHS resources.

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3. Progression to type 2 diabetes in women with a known history of gestational diabetes: systematic review and meta-analysis 1.Elpida Vounzoulaki, doctoral student in diabetes epidemiology1 2,Kamlesh Khunti, professor of primary care diabetes and vascular medicine1 2,Sophia C Abner, epidemiologist-statistician1 2,Bee K Tan, professor of obstetrics and reproductive sciences3,Melanie J Davies, professor of diabetes medicine1,Clare L Gillies, lecturer in medical statistics1 2