Accounts of disease weakening, and the advent of newer medications have prompted efforts to enhance conservative management. However, treatment continues to be challenged by the condition's heterogenous presentation and varied response to drugs, both of which appear to be genetically influenced. Thus, this study aimed to review the correlation between genotype and phenotype of patients with CHI.

Methods Retrospective review of the phenotype of patients with genetic forms of CHI managed at a specialised centre between 2010 and 2018.

Results The study identified 71 children with genetic forms of CHI. K_{ATP} channel defects (*ABCC8/KCNJ11*) made up the majority of cases ($n=55$). The remaining mutations included *HNF4A*, *GLUD1*, *GCK* and *PMM2*. The median age at first hypoglycaemia for most mutations varied between day 0–2; *GLUD1* probands were an exception with a median presentation of 260 days. Normal birth weights were recorded in *HNF4A*, *GLUD1* and paternally-inherited K_{ATP} defects; remaining subgroups were large for gestational age. Compound heterozygous, homozygous and paternally-inherited K_{ATP} defects made up the bulk of Diazoxide-unresponsive cases but interestingly some showed partial response. All probands with non- K_{ATP} channel mutations expressed either full or partial response to Diazoxide. Three *PMM2* mutation-holders displayed positive response to Diazoxide with adjunctive Nifedipine. Sirolimus and lanreotide were used in up to 12 patients with medically managed K_{ATP} defects. Disease weakening was observed across most genetic subgroups. Natural remission was seen in 1 compound K_{ATP} (1.56 years), 5 paternal K_{ATP} (median age 2.19 years), 5 (50%) maternal K_{ATP} (median age 0.33 years) and 1 *HNF4A* (0.66 years) mutation. Twenty-one (29.6%) patients underwent pancreatectomy. Neurodevelopmental delay was noted in 20 (28.2%) patients.

Conclusion The study reinforces the heterogenous nature of CHI and the potential for genetic understanding to enhance management. Experimental therapies, sirolimus and lanreotide, appear to be promising alternatives to invasive treatment in severe cases. The weakening severity observed across genetic subgroups and the morbidity associated with surgery, appear to support a shift towards conservative therapy.

G414 EVALUATING THE IMPACT OF A 'HIGH HbA1c PATHWAY' IN A PAEDIATRIC DIABETES CLINIC

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Aims HbA1c is an established marker of glycaemic control in diabetes mellitus. A high HbA1c is associated with greater risk of diabetic ketoacidosis, avoidable hospital admissions and long-term complications. In line with national recommendation our paediatric diabetes clinic has a 'high HbA1c pathway' involving intensive support to improve glycaemic control in patients whose HbA1c is ≥ 70 mmol/mol. We evaluated the impact of our 'High HbA1c pathway' on our patient outcomes.

Methods Medical notes of 109 young people on the High HbA1c programme from June 2015 to June 2017 were reviewed retrospectively. Data was analysed using Microsoft Excel.

Results In total 109 patients (53% females), mean age 13 years (range 2–19 years) were commenced on the pathway

during the 2 years period. 54% (59) of patients continued on the pathway for over 12 weeks. 46% (50) of patients were on an insulin multi daily injection regime opposed to pump therapy. 8% (9) had their insulin delivery method changed whilst on pathway.

Mean HbA1c on initiation was 76 mmol/mol, with subsequent measurement at 6 months being 73 mmol/mol (where available). The mean decrease after 12 weeks on the pathway was 7 mmol/mol.

Three patients had social care involvement. 20 patients had psychological input.

No statistical difference was found in the change in HbA1c whilst on the pathway between patients of different sex or ages. 65% of those who had psychological input successfully came off the pathway (HbA1c < 70 mmol/l). 78% of those in whom attempts at regular contact were successful within 6 weeks of starting on the pathway, subsequently came off the pathway.

Conclusion The High HbA1c pathway has had a mixed impact on our paediatric diabetes population. 46% of patients were able to improve their HbA1c sufficiently to come off the pathway within 12 weeks. Factors such as early contact with patients and access to psychological services seem to lead to better patient outcomes. Some patients' HbA1c didn't improve despite multiple regular contacts. Future work should aim to qualitatively explore what deems a contact successful. New innovative ways of engaging these patients need to be developed in order to reach optimal glycaemic control.

G415 LITERATURE REVIEW OF DIAGNOSTIC TESTS USED FOR THE ASSESSMENT OF GLYCAEMIC ABNORMALITIES OR CFRD IN CHILDREN WITH CYSTIC FIBROSIS (CF)

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Introduction CFRD is the most common co-morbidity in CF.¹ Long-term survival depends on the nutritional status, which influences pulmonary exacerbation and lung function.² Hence need for a reliable and reproducible diagnostic test, which identifies glucose intolerances early for improved survival in CF.

Aim To review recent evidences on various diagnostic modalities used for assessment of abnormal glucose tolerance (AGT) or CFRD by literature review.

Methods Systematic search of Medline and Embase database (up to March 2018) to identify relevant studies using appropriate inclusion & exclusion criteria along with various limits. A comparative analysis was carried out to assess the current evidence base.

Results Five relevant studies were identified for this review. Four studies examined oral glucose tolerance test (OGTT) of which two compared OGTT with CGMS. The prevalence of CFRD was 32–38%. OGTT identified glycaemic abnormalities in 50–60% while CGMS showed abnormalities in 79–93%. The sensitivity of HbA1c was low at 36% (range 11–69%). Self-monitoring of blood glucose (SMBG) with 1 hr postprandial levels offers valuable diagnostic information.

Conclusions Diagnosis of AGT/CFRD continues to be a huge challenge. HbA1c is unreliable as a diagnostic marker. OGTT is still favoured by international societies in spite of high inpatient variability. SMBG requires a huge commitment from patients. CGMS is promising but lack of clinical guidance

precludes its wider use. Two-stage screening using combination of tests seems to be fascinating but lacks consensus.

Recommendations This review recommends a standard OGTT for diagnostic purposes with plasma glucose levels taken at 0, 1 hr and 2 hrs. However CGMS is likely to become a standard option in the future in developed countries but needs consensus on this.

REFERENCES

1. *Diabetes Care*. 2009 Sep;**32**(9):1626–31
2. *J Pediatr*. 2008 Apr;**152**(4):540–5, 5.e1.

G416

SOCIODEMOGRAPHIC AND CLINICAL PREDICTORS OF ATTENDANCE AT GROUP CLINICS FOR YOUNG ADULTS WITH DIABETES (TOGETHER STUDY)

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Aims It has been suggested that group-based care could provide a sustainable addition to traditional one-to-one consultations for young people with diabetes. However, concerns have been raised that young people with worse diabetes control and less confidence in self-management might be less likely to attend such group clinics.

We co-designed and delivered a group-based care model for young adults with diabetes and complex health and social needs in a socioeconomically deprived area. The aim of this study was to conduct preliminary analyses of the socio-demographic and clinical characteristics of patients who chose to attend these group clinics.

Methods 49 participants aged 16–25 attending an adult diabetes services agreed to take part in the study. 23 group clinics were delivered by a youth worker and healthcare staff.

Baseline data were collected from each participant on: age, age at diagnosis, years lived with diabetes, sex, ethnicity, 1st language, deprivation decile, HbA1C, Problems Areas in Diabetes (PAID) score, Patient Enablement Instrument (PEI) score, rating of consultations and the overall service over the past year, proportion of scheduled doctor and nurse appointments attended in past year, number of unscheduled contacts over past year. All variables had less than 10% missing data except for questionnaire scores, ethnicity and 1st language.

Participants were categorised into: non-attenders (26/49), occasional attenders (1–2 clinics, 10/49); regular attenders (3+ clinics, 13/49). Differences between these groups were assessed using t tests for continuous variables and chi-squared tests for categorical variables.

Results White patients (2/7) were more likely to be non-attenders than Asian (11/17) or Black (7/12) patients ($p=0.04$). With this exception, no significant differences were found between attendance groups. Baseline HbA1C was 73.2 mmol/mol, 71.0 mmol/mol, and 74.3 mmol/mol among non-, occasional, and regular attenders respectively.

Conclusion Attenders and non-attenders at group clinics were very similar in their sociodemographic and clinical profile, except for lower attendance rates among White patients which was of borderline statistical significance.

G417(P)

DOES SHARING CARE PROCESSES COMPLETENESS INFORMATION WITH PATIENTS/PARENTS INCREASE THEIR WILLINGNESS TO ENGAGE WITH SELF-MANAGEMENT?

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Aim Test the hypothesis that informing patients looked after by paediatric diabetes team about results of their care processes over the year will improve their commitment to self-management with view to improving diabetes care.

Background Paediatric diabetes team sent a three page annual report to all of their patients. First page was used to reinforce the importance of all annual care processes. Second page was personalised for each patient to list the completion status/results of annual care processes and included a table and colour coded graph of their HbA1c values. The third page listed few personalised recommendations to help patients set their treatment goals for next year. All patients/parents were invited to an online survey to give their views after receiving this report.

Results Total 49 responses were received including 17 responses from young persons. Knowledge of essential care processes was good with only 2 responses denying knowledge of thyroid function tests and 1 denying knowledge of BMI assessment. Knowing results of blood pressure, urine albumin creatinine ratio and cholesterol were felt 'not useful' by only 4.1% of respondents and only 2% respondents felt the letter did not help them setting goals for next year. 89.8% of respondents found colour coded HbA1c graph 'extremely useful' or 'very useful' and 10.2% found it somewhat useful. 71.4% respondents said they will put more effort in their diabetes care next year, 14.2% said 'about the same effort' and 14.2% were 'not so sure'. 95.9% respondents would like to have similar letter next year. One respondent said, 'I feel like I should take it more seriously because I need to be in the green zone.'

Conclusion Majority of respondents found information on care process completion status useful and wanted to have similar report next year. Majority of respondents said they will put more effort in their diabetes care favouring hypothesis that informing patients about their care processes and results increases willingness to learn self-management. However, considering anonymous nature of the survey, it will not be possible to see if individual patients made real improvement in their diabetes care after receiving this report.

G418(P)

POSITIVE IMPACT OF CLINICAL GOVERNANCE AND QUALITY IMPROVEMENT INITIATIVES ON PATIENT CARE IN PATIENTS WITH ADRENAL INSUFFICIENCY

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Background Patients with adrenal insufficiency are required to follow 'steroid sick day rules' in illness or stress. Failure to do so, in particular delays in administering intramuscular (IM) hydrocortisone (HC), may precipitate a potentially fatal adrenal crisis.