236 Acceptability of continuous glucose monitoring (CGM) in cystic fibrosis
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Objective: Real-time monitoring of glucose by CGM is a validated tool in the management of diabetes, but its use in CF-related diabetes (CFRD) is new and the attitudes of CF patients towards it are unknown. To assess this further, we surveyed our adult CF patients who had undergone CGM as part of the management of their CFRD.

Method: Thirty patients (20 female) completed a 5-point Likert questionnaire.

Results: Most (83%) found the device easy to use and the instructions clear, and 77% indicated that CGM did not affect their daily routine, but in the remainder it interfered with sleep (50%), washing activities (42%), and choice of clothing (38%). Side-effects were reported by only 27% of these, 57% noted pain and 43% a skin reaction – 1 patient found these unacceptable. The majority stated they did not modify their diet (86%) or exercise regimen (90%) during the test. Two thirds also performed blood glucose monitoring during the duration of CGM as instructed, with 68% reporting a good correlation with the CGM results. Following this test, 73% reported a better understanding of blood glucose levels, 47% of insulin management and 77% of the relationship between dietary intake and blood glucose levels. Subsequently, 33% have modified their diet, and 90% would undergo CGM in future if required.

Conclusions: Although intrusive, CGM is perceived by patients as a useful and acceptable tool for the monitoring of their CFRD, with a low side-effect profile. We encourage other CF units to consider its use for the management of this increasingly common adult CF complication.

236 A retrospective review of the epidemiology of cystic fibrosis related diabetes (CFRD) in adult cystic fibrosis (CF) patients, Johannesburg, South Africa
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CF is a common fatal autosomal recessive inherited condition. Survival of patients with CF has increased due to optimal medical therapy. CFRD is a late complication of CF. The risk for developing CFRD is increased with increasing age, presence of exocrine pancreatic insufficiency, DF508 homozygous genotype, lower BMI and female gender.

Aims and Objectives: The aims of the study were to determine the prevalence of CFRD in the population of CF patients attending the adult CF clinic at Charlotte Maxeke Johannesburg academic hospital and to determine the characteristics of the patients with CFRD in terms of age, gender, genotype, lung function, BMI, HBA1c, use of corticosteroids and pancreatic function. There is currently no data available in South Africa regarding these statistics.

Methods: A retrospective patient file review was conducted on all 50 patient files in the Adult CF Unit. Patients were classified as having normal glucose tolerance, impaired glucose tolerance or CFRD based on the results of oral glucose tolerance testing (OGTT).

Results: 12 patients (24%) had normal glucose tolerance, 10 (20%) had impaired glucose tolerance, 23 (46%) had CFRD without fasting hyperglycaemia and 3 patients (6%) had CFRD with fasting hyperglycaemia. The prevalence of CFRD was 54%. Statistical analysis failed to demonstrate any significant difference in the characteristics of patients with and without CFRD.

Conclusions: The prevalence of CFRD in this population of CF patients correlates with the prevalence of CFRD in other CF centers. There were no statistically significant differences in the characteristics of patients with and without CFRD.

238 A study of dietary education for patients with CFRD
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Background: Structured education programmes for diabetes have been widely introduced in the UK in recent years, and standards and guidelines advocate their use. Evidence suggests that CFRD patients may also benefit from such programmes, in terms of improved glycaemic control and quality of life. However, there is a lack of studies that have evaluated these programmes for CFRD patients. The aim of this study was to evaluate a structured dietary education programme for patients with CFRD using a qualitative approach.

Method: In-depth interviews were conducted with 8 patients (both recently diagnosed and long-standing CFRD patients) who had attended a structured CFRD education programme at Manchester Adult CF Centre. Interview topics included patients’ perspectives on having CFRD, management of CFRD and their perspectives on the structured education programme.

Results: The findings highlighted several areas of living with and managing CFRD that affect patients. These included the impact of CFRD and accepting the diagnosis, perspectives on the difficulties of managing CFRD and fitting it in with their lifestyle, and the difference that attending the education programme appeared to have on these issues.

Conclusion: These findings suggest the need to support patients with the diagnosis and ongoing management of CFRD, with the potential for closer working between psychologists and the CFRD team. There is a need to provide all patients who have CFRD with ongoing, structured education at the time that is right for them, separately to their routine clinic visits to allow time to focus on CFRD, and to provide clear, written information to help improve their understanding of CFRD.

239 Establishment of an F508del pseudoislet model for the study of CF-related diabetes
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Objectives: CF-related diabetes (CFRD) is poorly understood, but CFTR is expressed by pancreatic β-cells and is important in insulin secretion [1]. CF animal models offer new opportunities to study CFTR deficient islets. However, islet isolation is labour intensive, of low yield and inflicts a significant animal burden. Here, we sought to establish an F508del pseudoislet model using the murine MIN6 β-cell line which expresses wild-type CFTR. 3D pseudoislets are preferable to MIN6 monolayers. They show enhanced expression of β-cell markers (GLUT2, glucokinase) when compared with MIN6 monolayers. These findings reinforce the utility of this model to study basic mechanisms of β-cell biology. The established F508del pseudoislet model will be used for future studies to determine if CFRD results from perturbation of normal β-cell function because of the basic CFTR defect.

Reference(s)