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Impact of continuous subcutaneous insulin infusion (CSII) pump use for Cystic Fibrosis-Related Diabetes (CFRD) D. Shimmin1 , H. White1,2, C. Etherington1 , D. Peckham1 . 1 Leeds Teaching Hospitals NHS Trust, Adult CF Unit, Leeds, United Kingdom; 2 Leeds Beckett University, Nutrition and Dietetic Group, Leeds, United Kingdom

Objectives: CFRD is the commonest co-morbidity in adults with CF. Multiple daily injections (MDI) of insulin may be required which impact on treatment satisfaction and health-related quality of life (HRQoL). In type 1 diabetes CSII is associated with improved metabolic control and HRQoL compared with MDI. Little however is known about the benefits of CSII use in people with CFRD. The aim of this study was to evaluate the impact of switching from MDI to CSII on glycaemic control, nutritional status, pulmonary function, antibiotic use and patient reported outcomes in patients with CFRD.

Methods: Patients who switched from MDI to CSII use between 2007 and 2017 were identified and data extracted retrospectively from our electronic patient records (EMIS®). HbA1c, BMI, percent predicted FEV1 (%FEV1) and IV antibiotic days were collected at baseline and at 6 monthly intervals for 2 years after starting CSII. Treatment satisfaction and HRQoL were assessed using the Insulin Delivery System Rating Questionnaire (IDSRQ)1 .

Results: 19 patients (9 male, median age [range] 31 [14.2–41.9] years) were identified. Median HbA1c decreased significantly from 78 to 57 mmol/l at 6 months ($p = 0.04$). Median BMI increased significantly at all time points from 20 kg/m2 at baseline to 21.8 kg/m2 at 2 years ($p < 0.05$). There was a clinically but not statistically significant increase in median %FEV1 at all time points from 50% at baseline to 68% at 2 years. IV antibiotic use did not alter significantly during the study period. Treatment satisfaction (n = 10) was high with responses suggestive of improved HRQoL. Some reported diabetes-specific concerns may reflect a lack of clinical support.

Conclusion: In adults with CRFD switching to CSII was associated with significant improvements in metabolic and nutritional outcomes and treatment satisfaction. Further randomised controlled studies are required to determine the impact of this intervention on overall CF outcomes