

6.11 Closed Loop Audit – Cystic Fibrosis Related Diabetes

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Cystic fibrosis-related diabetes (CFRD) is an extrapulmonary complication of cystic fibrosis (CF). It is associated with increased morbidity and mortality. The American Diabetes Association (ADA) published guidelines for the management of CFRD in 2010. The aim of this single centre closed loop audit was to re-evaluate the adherence to ADA guidelines following an audit in 2016.

120 patients with CF were reviewed over a 5 year period, 2017 to 2022. 25.8% had CFRD, 93% had a confirmed diagnosis, 84% were on insulin therapy, 35% were reviewed quarterly, 42% had a HbA1c <7%, compared to 32.4%, 49%, 74%, <5%, and 43% respectively in 2016. This population had a median FEV1 of 71%, BMI of 22.6, and exacerbation rate of 0, compared to 56%, 21.8, and 2.6 respectively. 16% of the non-CFRD population had an annual OGTT compared to 46% previously.

Adherence to ADA guidelines is greater in almost every parameter. The clinical improvement in the CFRD population in terms of FEV1, BMI, and exacerbation rate is likely influenced by guideline adherence and the introduction of triple combination therapy. SARS-CoV2 pandemic and the Health Service Executive ransomware attack are unique to this re-audit and likely account for the reduction in CFRD screening.

Table 1(6.11). Clinical characteristics

	CFRD n=35 [2016]	CFRD n=31 [2022]	Non-CFRD n=73 [2016]	Non-CFRD n=89 [2022]
Age (median, range)	26 (19 – 47)	35 (19 – 55)	27 (17 – 54)	30 (17 – 72)
Male (n, %)	19 (54%)	19 (61%)	43 (58%)	43 (48%)
Pancreatic insufficiency (n,%)	33 (94%)	30 (97%)	57 (78%)	71 (80%)
Osteoporosis (n, %)	10 (28%)	7 (23%)	18 (24%)	12 (13%)
Indwelling Venous Access Device (n, %)	24 (68%)	17 (55%)	51 (69%)	37 (42%)
Pseudomonas Colonisation (n, %)	23 (65%)	22 (71%)	47 (64%)	44 (49%)
FEV1% (median, range)	56.5 (22 – 100)	71 (26 – 113)	61 (15 – 122)	84 (22 – 130)
BMI kg/m² (median, range)	21.7 (16.7 – 30.5)	22.6 (18 – 30.2)	21.7 (16.3 – 40.1)	24 (17.7 – 47.4)
Exacerbation rate (median, range)	2.6 (0 – 13)	0 (0 – 4)	1.8 (0 – 10)	1 (0 – 10)

Conflict of Interest: None to declare