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Topic: 15 Epidemiology / Registry

Title: Rescue therapy within the UK CF Registry: an exploration of the predictors of IV antibiotic use amongst adults with CF

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Text: Background

IV antibiotics are needed for rescue when preventative therapy fails to achieve stability. Understanding the distribution of IV days among people with CF can provide insight into the care they need.

Aim

To determine baseline characteristics that are associated with higher IV use among adults with CF

Methods

The 2012 & 2013 data on age, sex, BMI, FEV1, pancreatic status, Pseudomonas status & CF related diabetes for those aged ≥16 years were obtained from the UK CF registry. IV days data for 2011-2013 were also obtained. Those on ivacaftor were excluded. Multiple regression was performed using current year IV days as the dependent variable and demographic variables & prior year IV days as the covariates for both 2012 & 2013. Based on these results, tree-based method (Zhang & Bracken, AJE 1996) was used to divide the study sample into clinically meaningful subgroups.

Results

For both years, prior year IV use was the strongest predictor for current year IV use, followed by FEV1. People with prior year IV use >14 days has a 4-6 fold increase in IV use for the subsequent year.

	Prior year IV ≤14 days and current FEV1 ≥70%	Prior year IV >14 days and current FEV1 ≥70%	Prior year IV ≤14 days and current FEV1 <70%	Prior year IV >14 days and current FEV1 <70%	One way ANOVA (comparing across the 4 groups) p-value
2012: number of adults with CF	1617	485	1150	1480	
2012: IV days, mean (SD)	5.5 (11.2)	27.7 (28.1)	12.3 (19.9)	55.8 (50.2)	< 0.001
2012: IV days, median (IQR)	0 (0-10)	22 (11-41)	0 (0-15)	43 (24-74)	
2013: number of adults with CF	1678	440	1148	1437	
2013: IV days, mean (SD)	4.7 (9.9)	26.6 (24.5)	12.8 (20.4)	53.8 (46.0)	< 0.001
2013: IV days, median (IQR)	0 (0-0)	24 (7-41)	0 (0-14)	42 (24-71)	

[IV use by group]

Conclusion

People with prior high levels of rescue will often continue to need high levels of rescue even if they have good lung function. The reasons for this require further investigations.

We thank the UK CF Registry for supplying the data for this analysis

Preferred Presentation Type: Oral Presentation