
Late Breaking Abstract - Does infant lung function affect clinical management in children with cystic fibrosis?

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Introduction

At our centre, infant lung function (ILF) is routinely performed in children with cystic fibrosis (CF). Research question: do ILF results affect clinical management?

Methods

Mono-centre retrospective cohort analysis of subjects with CF born between 2014 and 2018. Z-scores for SF₆ Lung Clearance Index (zLCI), plethysmographic FRC (zFRC_{pleth}) and zFEV_{0.5} were derived. The closest clinical encounter following each ILF data point was reviewed to evaluate whether there were changes in clinical management and why.

Results

Following 95 ILF tests there were 10 changes in management, but only one of these was for abnormal ILF results alone. In the other 9 cases there were also increased symptoms and/or abnormal microbiology. See table for full results

	3 month-old N. 32	1-year-old N. 34	2-year-old N. 29
Age at test, months	3.2±2.2	12.1±1.4	22.3±3.9
zHeight	-0.06 ±1.11	0.33±1.29	0.13±1.20
zBMI	-0.81±1.03	0.07±1.02	0.41±1.05
Total N. LCI	28	31	28
Mean zLCI	1.19±1.00	1.55±1.04	1.37±1.77
Abnormal LCI	3(11%)	9(29%)	7(24%)
Total N. FRC_{pleth}	26	29	17
Mean zFRC_{pleth}	0.93±1.00	0.99±1.45	1.82±1.51
Abnormal FRC_{pleth}	3(11%)	6(21%)	7(41%)
Total N. FEV_{0.5}	18	15	12
Mean zFEV_{0.5}	0.36±1.21	0.17±1.04	0.02±0.73
Abnormal FEV_{0.5}	0	0	0
ALL LF tests obtained?	13(40%)	12(35%)	10(34%)
Change in management?	0	7(21%) [§]	3(11%) [#]
[§] 5 patients had oral antibiotics for symptoms or micro results; 1 patient started 3% NS and 1 DNase nebs for symptoms [#] 3 patients started on DNase, 2 for symptoms and 1 for abnormal LCI			

Conclusion

This analysis did not demonstrate change in clinical management following ILF results alone. Prospective studies involving weighting of different factors are required to assess the utility of ILF.