

European Respiratory Society Annual Congress 2013

Abstract Number: 524

Publication Number: 5057

Abstract Group: 7.3. Cystic Fibrosis

Keyword 1: Infants **Keyword 2:** Lung function testing **Keyword 3:** Exacerbation

Title: Changes in pulmonary function tests following antibiotics in infants with pulmonary exacerbation of cystic fibrosis

Prof. Dr Shahid 1902 Sheikh shahid.sheikh@nationwidechildrens.org MD ¹, Rob 1903 Flucke rob.flucke@nationwidechildrens.org ¹, Nancy 1904 Ryan-Wenger ancy.ryan-wenger@nationwidechildrens.org ² and Prof. Dr Karen 1905 McCoy karen.mccoy@nationwidechildrens.org MD ¹. ¹ Division of Pulmonary Medicine/Department of Pediatrics, Nationwide Childrens Hospital/Ohio State University, Columbus, OH, United States, 43205 and ² Department of Nursing Research, Nationwide Childrens Hospital, Columbus, OH, United States, 43205 .

Body: Progressive lung disease plays an important role in CF morbidity. In older patients, improvement in PFT during CF exacerbation reflect clinical improvement but similar effectiveness of PFT in infants is not well known. Methods: After local IRB approval, charts of all patients with CF who underwent infant PFT (under sedation with raised volume thoraco-abdominal technique) before and after 2 weeks of I/V antibiotic therapy for CF exacerbation between 2000-2012 at Nationwide Children's Hospital, Columbus, OH, were reviewed and included in this study. Results: Forty-one studies were completed in 28 patients, mean age 20.8 ±48 weeks. IV antibiotic therapy was received in the home by 15 (56%) and in the hospital by 13 (43%) patients. Length of hospital stay averaged 7.7 ±6.8 days. The mean number of antibiotic days was 17.8 ±4.9.

Infant PFT in CF Exacerbations

Test	Before antibiotics	After Antibiotics	Change (post-pre/pre)	P value
Weight (kg)	9.5 ± 2.7	9.92± 2.68	0.40 ± 0.46	0.0001
Mean %FEV 0.5	86 ± 20	93 ± 16.7	8 ± 0.4	0.006
Mean %FEF25-75	63.7 ± 29.5	77.69 ± 28.7	21.8 ± 0.4	0.0001
Mean% RV/TLC	123 ± 32	109 ± 29.8	- 11.5± 0.2	0.002
Mean % FRC/TLC	44.3 ± 8	40 ± 7	- 9.6 ± 0.12	0.0001

Thirty-one of 41 (75.6%) studies showed significant improvement. There was no improvement in one and remaining 9 studies were within normal limits at baseline. There were no significant differences in PFT changes between patients who received IV antibiotics at home or in the hospital, or whether or not

pseudomonas or MRSA were present in throat cultures. Conclusions: Among infants with CF-related pulmonary exacerbations, there was significant improvement in PFT in most of the infants after IV antibiotic therapy.