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Title: Longitudinal microbiology of children with primary ciliary dyskinesia

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Body: Introduction Longitudinal changes in the respiratory microbiology of cystic fibrosis is well characterised; Staphylococcus aureus & Haemophilus influenzae are initially isolated before chronic Pseudomonas aeruginosa colonisation. However there is a paucity of similar microbiological data for primary ciliary dyskinesia (PCD). Aims Longitudinal assessment of respiratory microbiology in paediatric PCD patients in a UK specialist centre. Methods Results of sputum and cough swab microbiology from PCD patients (aged 2.1-19.3 years old, n=17) between January 2003–January 2012, were reviewed. Results were divided into 5-year cohorts corresponding to patient age at time of sample acquisition(table 1). Results 168/341 (49.1%) cultures were positive. H. influenzae was most prevalent (61/168, 36.3%) followed by S. aureus (32/168, 19%), Streptococcus pneumoniae (27/168, 16%) and P. aeruginosa (16/168, 9.5%). The predominance of H. influenzae continued throughout childhood apart from in 5-10 year olds where there were equivalent numbers of H. influenzae, P aeruginosa, S. aureus & S. pneumoniae (table 1).

Table 1 – Percentage prevalence of bacteria in PCD children in a tertiary follow up clinic in the UK (overall and in age bands)

Bacteria	Overall (n=168)	Age band in years (samples)			
		0-5 yrs (n=28)	5-10 yrs (n=67)	10-15 yrs (n=47)	15-20 yrs (n=26)
H. influenzae	36	32	18	55	54
S. aureus	19	15	22	21	11
S. pneumoniae	16	11	24	13	8
P. aeruginosa	10	7	19	0	4
M. catarrhalis	3	7	5	0	0
Fungi and yeast	7	14	6	0	15
Other	9	14	6	11	8

Conclusion *H. influenzae* is the predominant pathogen in our PCD patients throughout childhood, particularly >10 years old. The progression to chronic *P. aeruginosa* colonization seen in CF is not evident in our PCD population.