Appendix 5: Summary table of papers for investigations/causes

	Pasteur et al 2000 [1]				Li et al 2005 [2]			
Study site	UK tertiary clinic				UK tertiary clinic			
Subjects with bronchiectasis	150 adults				136 children			
M:F	56:94				65:71			
Age yrs	Mean 52.7 (Range 13-82)				Mean 12.1 (Range 3.1-18.1)			
FEV1 %	Mean 74				Mean 71			
Aetiology	**Investigation**	**Performed n**	**Abnormal n**	**Diagnostic n (%)**	**Investigation**	**Performed n**	**Abnormal n**	**Diagnostic n (%)**
Cystic fibrosis	CFTR gene analysis *(Panel covering 86% of local disease causing mutations)*	146	10 +/- 1 +/+	4 (2.7)	*Pre-excluded by sweat test and genetic analysis with selected measurement of nasal potential difference and faecal elastase*			
	Sweat sodium chloride equivalent (*only in those patients with at least one CFTR mutation)*	11	4					
Alpha-1 antitrypsin deficiency	A1AT levels	150	2	0 (0.0)	*Not investigated*			
	A1AT ZZ phenotype	150	0					
Primary ciliary dyskinesia	Cilial brushings for LM and EM	150	3	3 (2.0)	Ciliary function	66	19	19 (29.0)
					Nasal nitric oxide *(only in those patients with abnormal ciliary function)*	19	9	
Allergic bronchopulmonary aspergillosis	Aspergillus specific IgE	150	28	11 (7.3)	*Not investigated*			
	Aspergillus specific IgG *(only undertaken in sensitised subjects)*	11	2					
	Total IgE Blood eosinophliia Skin prick tests							
Humoral immunodeficiency	Serum immunoglobulins	150	5	12 (8.0)	Immunoglobulins IgG subclasses Specific antibody responses to HIB, Tetanus and Streptococcus pneumoniae Lymphocyte subsets Antigen/mitogen stimulation tests Staphyloococcal and candida killing ability tests HIV screen	110	46	46 (42.0)
	IgG subclasses	150	7					
	Anti-pneumococcal antibody titre	150	25					
	Pneumovax response (*only undertaken in those with <10th percentile pre-immunisation antibody titre)*	25	6					
Defect in neutrophil function	Neutrophil adhesion markers	150	0	1 (0.7)	*Not investigated*			
	Neutrophil respiratory burst	150	2					
Autoimmunity	*Not investigated*				*Not investigated*			
Aspiration	*Not investigated*			6 (4.0)	24h oesophageal pH monitoring	51	23	23 (45.0)
					Barium meal	18	2	1 (5.5)
Previous Tuberculosis	*Not investigated*				Mantoux	23	0	0 (0)
Diagnosis made on investigation n (%)	31 (20.7)				89 (65.4)			
Overall diagnostic rate n (%)	70 (46.7)				101 (74.2)			
Overall rate of change of management n (%)	22 (14.7)				77 (56.7)			

(*Continued*)

Appendix 5 (*Continued*)

Shoemark et al 2007 [3]				McShane et al 2012 [4]				Anwar et al 2013 [5]			
UK tertiary clinic				USA University referral centre				UK and Ireland - 2 general bronchiectasis clinics			
165 adults				112 adults				189 adults			
28:107				32:80				94:95			
Mean 49 (Range 17-87)				Mean 61.4 (1SD = 17.7)				Mean 66.1 (Range 24-89)			
Mean 72				Mean 75				Mean 67			
Investigation	**Performed n**	**Abnormal n**	**Diagnostic n (%)**	**Investigation**	**Performed n**	**Abnormal n**	**Diagnostic n (%)**	**Investigation**	**Performed n**	**Abnormal n**	**Diagnostic n (%)**
Sweat test CFTR gene analysis	165	2 +/+	2 (1.2)	CFTR gene analysis Sweat test	15		0 (0)	CFTR gene analysis	94	4 +/- 1 +/+	1 (0.6)
								Sweat test	12		
								Only investigated in the presence of high risk clinical features or if no other apparent aetiology. 100 patients were screened.			
Not investigated				A1AT levels	106	5	12 (11.3) *another cause was identified in 10 patients*	A1AT levels A1AT phenotype	169		2 (1.2)
				A1AT phenotype	106	11					
Saccharin test Nasal nitric oxide Cilial brushings for LM and EM	165		17 (10.3)	*Not specified*			3 (2.8)	*Referred for investigation if history was suggestive*			2 (1.1)
Total IgE Sputum and/or blood eosinophilia Aspergillus specific IgE	165		13 (7.8)	*Selected patients with asthma, central bronchiectasis, peripheral eosinophilia and Total IgE >1000 ng/mL*				Aspergillus specific IgG	164	44	7 (4.3)
				Skin prick tests Serum precipitins			1 (0.9)	Skin prick tests	61	11	
								Serum IgE Blood eosinophilia			
Serum immunoglobulins IgG subclasses Specific antibody responses to pneuomococcal and tetanus antigens followed by vaccination if appropriate Serum and urine electrophoresis	165		7 (4.2)	Serum immunoglobulins IgG subclasses Specific antibody responses to 23 pneuomococcal antigens followed by vaccination if appropriate	106		17 (16.0)	Serum IgG	183	24	2 (1.1)
								Serum IgA	187	55	
								Serum IgM	187	45	
								IgG subclasses	161	1	
								HIB specific antibodies	161	79	
								HIB vaccine response *(only undertaken in those with low baseline antibodies)*	36	0	
								Streptococcus pneumoniae (23 valent) specific antibodies	161	5	
								Pneumovax response *(only undertaken in those with low baseline antibodies)*	5	0	
Not investigated				*Not investigated*				*Not investigated*			
Autoantibodies including rheumatoid factor	165		3 (1.8)	Rheumatoid factor ANA Selected ENA and Anti-CCP	106		33 (31.1) 20 with rheumatological diagnosis	Rheumatoid factor	185	28	9 (4.9)
								ANA	179	13	0 (0.0)
								ENA *(only undertaken in those with positive ANA)*	13	0	
Not investigated			2 (1.0)	*Not investigated*			12 (11.3)	*Not investigated*			2 (1.0)
Not investigated				*Not investigated*				*Not investigated*			
42 (25.4)				54 (50.9)				23 (12.1)			
122 (73.9)				99 (93.3)				107 (56.6)			
61 (36.9)				*Not reported*				14 (7.4)			

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Lonni et al 2015 [6]				Qi et al 2015 [7]			
9 European University teaching hospitals				China - 5 general hospitals			
1258 adults				476 adults			
506:752				Not reported			
Median 67 (IQR 58-75)				≥ 18			
Median 73				Mean 73.8			
Investigation	**Performed n**	**Abnormal n**	**Diagnostic n (%)**	**Investigation**	**Performed n**	**Abnormal n**	**Diagnostic n (%)**
CFTR gene analysis Sweat test			0 (0)	*Not investigated*			
Only investigated if suggestive signs and symptoms							
A1AT deficiency evaluated if family history or CT evidence of lower lobe emphysema				*Not investigated*			
Not specified			8 (0.6)				
Only investigated if suggestive signs and symptoms				*Only investigated if suggestive signs and symptoms*			
Nasal NO and Sacharrin test Referral to specialist centre			21 (1.7)	Sacharrin test Ciliated epithelial biopsies for EM *only in those with positive saccharin test*	71 8	8 2	4 (0.9)
Total IgE Aspergillus specific IgE Serum precipitins	1258		56 (4.5)	*Only investigated in the presence of wheeze*			
				Blood eosinophliia Skin prick tests Total IgE	78		19 (4.0)
Serum immunoglobulins Serum electrophoresis	1258		73 (5.8)	Serum immunoglobulins	476	23	17 3.6)
Not investigated				*Not investigated*			
Investigated if clinical features of rheumatological disease				*Investigated if clinical features of rheumatological disease*			
Rheumatoid factor, Anti-CCP ANA, ENA, ANCA			128 (10)	Standard criteria			21 (4.4)
Not investigated			8 (0.6)	*Not investigated*			1 (0.2)
Not investigated				*Not investigated*			
286 (22.7)				61 (12.8)			
756 (60.0)				162 (34.0)			
166 (13.2)				*Not reported*			