WS24.5 Unresponsive patients benefit from switching intravenous antibiotic treatments for pulmonary exacerbation

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Background: CF pulmonary exacerbations (PEx) are associated with increased morbidity and mortality and usually treated with antibiotics (ABX). We have previously noted that IV ABX FEV_1 response is essentially complete by 14 days (Resp Res 2010, 11: 137). During PEx, we assess FEV_1 weekly; poor FEV_1 responses may result in a switch to a different ABX regimen. We have characterized FEV_1 responses in patients where ABX regimens have been switched.
Methods: Treatments and responses from Jan 2000 onward for PEx with dates and FEV_1 measures available from a prior stable clinic visit, ABX treatment start and stop, and a stable follow-up visit were studied. FEV_1 responses were compared for PEx treatments with and without ABX switches.
Results: 575 PEx (69 with an ABX switch) were included. Switching ABX increased mean treatment length and time to peak FEV_1 response ($P < 0.001$). Most switches occurred after 2 weeks of treatment. 75% of peak FEV_1 responses occurred after ABX switch. On average, ~2/3 of total FEV_1 response occurred after ABX switch.

Variable	No ABX Switch, N = 506 Mean (SD)	ABX Switch, N = 69 Mean (SD)	P*
FEV_1 Baseline, % predicted	62.2 (22.2)	63.9 (21.4)	0.42
FEV_1 ABX Start, % predicted	56.7 (20.3)	55.6 (20.9)	0.70
FEV_1 Peak Response, % predicted	66.8 (21.7)	65.3(21.8)	0.76
FEV_1 ABX Stop, % predicted	65.3 (21.5)	63.3 (21.6)	0.54
FEV_1 Follow-up, % predicted	62.4 (22.2)	61.6 (20.0)	0.98
FEV_1 change Baseline to Follow-up, % predicted	+0.2 (8.9)	-2.3 (10.3)	**0.052**
Time ABX Start to Peak Response, days	13.1 (7.4)	22.8 (13.9)	<**0.001**
Time ABX Start to Stop, days	18.1 (7.0)	31.3 (12.7)	<**0.001**
Time ABX Start to Switch, days	-	15.5 (8.6)	

*non-parametric.

Conclusions: ABX switching appeared to benefit unresponsive patients, but outcomes were somewhat poorer than for patients where no switch occurred.

WS24.6 Treatment of pulmonary infection with *Mycobacterium abscessus* complex in adults with cystic fibrosis

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Pulmonary disease due to infection with *Mycobacterium abscessus* complex (MABSC) is increasingly common in patients with cystic fibrosis (CF) [1]. There is little published data on the safety and efficacy of treatment regimens in CF patients.
Aim: To assess the prevalence, treatment and clinical and microbiological outcomes of MABSC pulmonary disease in adult CF patients.
Methods: We carried out a retrospective review of all CF patients with MABSC pulmonary disease, defined by ATS criteria, attending our adult CF centre, between January 2005 and December 2010.
Results: 17/285 (6%) patients were newly diagnosed with MABSC disease. Of these, 15 patients (88%) were treated using a regimen consisting of an induction period of 2–4 weeks of 3 intravenous (iv) antibiotics (amikacin, carbapenems and tigecycline or cefoxitine), followed by a maintenance regimen involving nebulised antibiotics (amikacin and/or meropenem) and oral antibiotics (fluoroquinolone, minocycline and a macrolide). Treated patients showed an improvement in FEV1 in the 6 months after starting therapy. Sputum conversion was noted in 9/15 (60%) patients; 5 of these patients have completed therapy and remained free of MABSC disease. 6/15 (40%) patients stayed culture positive, most requiring repeated admissions for iv antibiotics for exacerbations. 22 episodes of drug reactions were recorded, including development of rash, neutropenia and liver function abnormalities.
Discussion: Despite aggressive antibiotic therapy, successful treatment of MABSC pulmonary disease in CF patients is difficult and limited by potentially serious side effects.

Reference(s)

[1] C. Esther Jr. et al, J Cyst Fibros. 2010: 9, 117–123.