

Mycobacterium abscessus infection in adult patients with cystic fibrosis: clinical and microbiological outcomes



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BACKGROUND

- *Mycobacterium abscessus* is a rapidly growing, multiresistant pathogen
- Increasing in cystic fibrosis (CF) population
- It can cause rapid deterioration in lung functions (1)
- Aim was to assess *M. abscessus* infection prevalence and associated clinical and microbiological features in our clinic.

METHODS

- Retrospective observational study
- All adult patients with CF who attended Hacettepe University
- From January 2011 to October 2015
- Patients were screened for nontuberculous mycobacterial (NTM) infection annually after diagnosis of CF
- At least one positive culture for *M. abscessus*
- Commercial liquid culture platform and identification confirmed by Mycobacteriology Reference Laboratory in Ankara, Turkey.
- Clinical and microbiological outcomes of the patients were recorded

RESULTS

- 61 patients with CF, mean age: 22.5 years (range: 18-40 years)
- 32 patients male, 29 patients female
- Average follow-up duration: 17 years (range 1-27 years)
- Five patients (%8, two males) had at least one positive culture
- Mean age at the first positive culture: 26.6 years (range 24-29 years)
- All had initial symptoms including cough and sputum production
- Four patients were on inhaled tobramycin or colistin therapy for chronic *Pseudomonas* infection, but none was on azithromycin
- Chest radiographs and CT findings: widespread bronchiectatic changes
- Case 1 had bilateral nodules which is specifically associated with NTM infection (Figure 1)
- Two patients met the American Thoracic Society criteria (2) for NTM pulmonary disease. *M. abscessus* was eradicated with meropenem, clarithromycin and amikacin for 6 months in Case 5, but no eradication was achieved with a 13 months therapy in Case 1

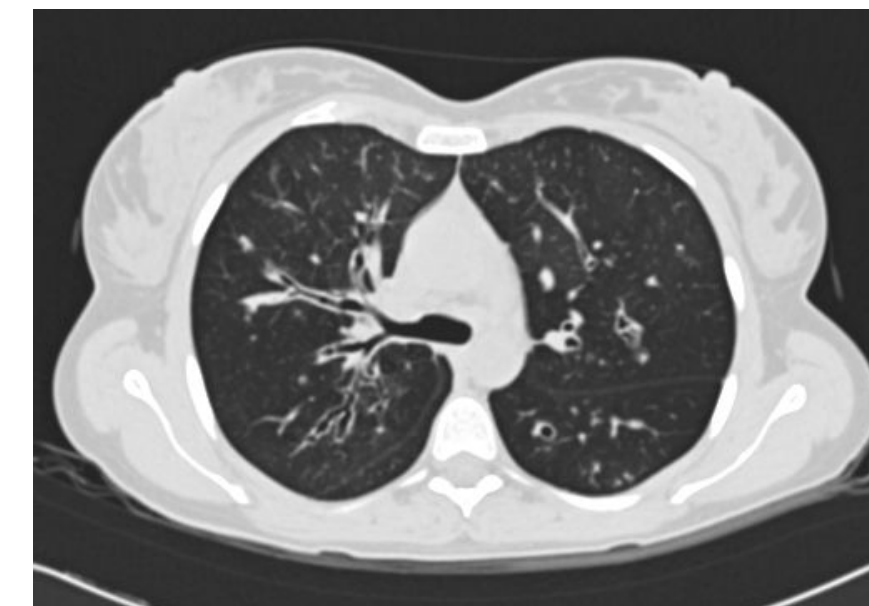


Figure 1: bilateral nodular infiltrates in Case 1

CONCLUSIONS

This is the first study from Turkey about *M. abscessus* infection in adult CF patients. All positive cultures occurred in the last five years. CT findings were not diagnostic except in one patient. One of infected patients had persistent lung disease despite prolonged antibiotic therapy. Prognosis of other colonized patients couldn't be predicted with the available data. Large scale studies are urgently needed for defining prognostic factors and the best of therapy.

References:

1. Esther, C.R., Jr., et al., *Chronic Mycobacterium abscessus infection and lung function decline in cystic fibrosis*. J Cyst Fibros, 2010. **9**(2): p. 117-23
2. Griffith, D.E., et al., *An official ATS/IDSA statement: diagnosis, treatment, and prevention of nontuberculous mycobacterial diseases*. Am J Respir Crit Care Med, 2007. **175**(4): p. 367-416

Table 1: clinical and microbiological characteristics of patients

Case	1	2	3	4	5
Age	24	26	27	27	29
CFTR-mutation	N1303K / -	G542X / -	I148T / -	2789+5G-A / -	ΔF508 / ΔF508
<i>P.aeruginosa</i>	+	+	+	-	+
ABPA	-	+	-	-	-
CF related diabetes	-	-	+	-	+
Pancreatic insufficiency	+	-	+	+	+
FEV1%-predicted	31	29	21	87	30